The Mississippi Emergency Medical Services: Standard for Medical Direction and Data Collection

August 11, 2003
Model System
Mississippi Pre Hospital Protocol & Guidelines

Mississippi Emergency Medical Services:
Standards for Medical Direction Oversight and Data Collection

Pre Hospital Protocols, Policies, and Procedures 2003 Version

The Mississippi Emergency Medical Services Standards for Medical Direction Oversight and Data Collection document is a guideline document promoting the development and standardization of pre-hospital patient care across EMS systems in Mississippi.

This document was generated by the Performance Improvement Committee of The Mississippi Office of Emergency Planning and Response, Bureau of Emergency Medical Services. This Committee will review and update these protocols annually.

Formal comments or requests for change should be routed to the Director, Office of Emergency Planning and Response. These requests will be presented formally to the Statewide Performance Improvement Committee for discussion and recommendations. If approved, these requests will be routed through the standard approval process including the Medical Direction, Training and Quality Assurance Committee.

In the event that any component of this document is noted to have a critical error or there is an urgent need for this document to be adapted to protect or promote improved patient care or safety, the PI Committee may alter this document immediately. The Mississippi EMS community will be notified accordingly.

This manual reflects an ongoing effort to provide the best, appropriate EMS care based on each patient's need and outcome. These documents must be reinforced with a defined program of initial training, continuing education, and ongoing quality management.

The pages that follow represent the professionalism and dedication of the frontline emergency medical caregivers within the boundaries of the state of Mississippi.

These protocols follow the Mississippi Emergency Medical Services Laws, Rules and Regulations.

Mississippi Emergency Medical Services: Standards Document Instructions

Use of Policies Protocols and Procedures:

Mississippi's EMS Systems must develop and maintain a protocol, policy, and procedure manual that at a minimum addresses the following:

- A protocol corresponding to each protocol must be incorporated into the EMS systems manual. The Mississippi Statewide Model protocols cross all levels of emergency care: medical First Responder, EMT-Basic, EMS Driver, EMT-Intermediate, and EMT-Paramedic. Each EMS system may choose to adopt these protocols as a pattern to develop their own individual protocol for each topic.
- A policy corresponding to each policy herein must be incorporated in the EMS systems manual. Each EMS system may choose to adopt the policies unchanged or develop their own individual policy for each topic.
- A procedure corresponding to each policy herein must be incorporated in the EMS systems manual. Each EMS system may choose to adopt the procedures unchanged or develop their own individual procedure for each topic.
- A copy of the patient care report used by the EMS system must be included in the manual. If the EMS system uses an electronic data collection system, this must be described in the manual.
- A drug list indicating all the medications used by the EMS system, complete with indications, contraindications, dosage, and administrative routes. The Mississippi State Protocol Drug List may be adopted unchanged to fulfill this requirement or a customized document may be prepared.
- Several supporting documents are provided for reference with the Mississippi State Protocols. It is recommended that these supporting documents be included in the EMS manual, however, they are not required.
- A description of the EMD card manufacturer and version must be included in the manual of EMS systems that provide Emergency Medical Dispatch Services. No other documentation is required for EMD protocols unless changes to the cards have been made. Any changes to the questions (not the determinants) must be approved by the Office of Emergency Planning and Response; EMS Director.
- The content of this document must be reflected in each EMS systems protocols, policies and procedures within one year of the release of any new version.

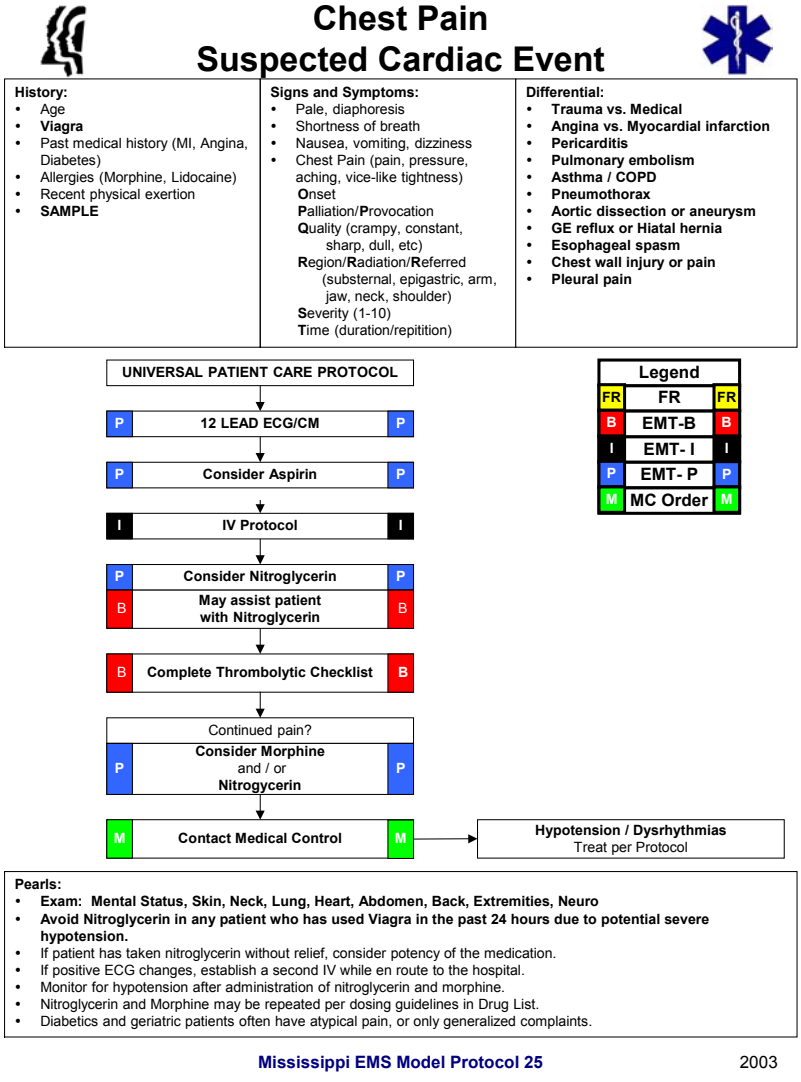
Comments and Questions

Comments on these documents can be sent to Jim Craig, Director (Office of Emergency Planning and Response) at jim.craig@ohr.doh.ms.gov.

Directions for Use

The Mississippi Standard has been arranged in a flowchart method for quick reference. The following information will help the user to understand how these flowcharts were designed.

Information contained in the protocol found in **bold** and ALL CAPS has a corresponding protocol, procedure or policy also found in this document. Each section is found by its associated tab. Sections include: General Medical, Adult Cardiac, OB/Peds, Trauma, Procedures, Policies, Appendix, and Drug List.



History:
Possible medical indicators that may define or support the chief complaint.

Signs and Symptoms:
Sign is defined as an indication of a patient's condition that is objective, or can be observed by another person.
Symptom is defined as an indication of a patient's condition that cannot be observed by another person but rather is subjective.

Differential:
Possible end results or underlying conditions that could be causing the chief complaint.

Pearls (of Wisdom): Additional supportive information that will aid the EMT or First Responder with his/her pre hospital care.

Mississippi EMS Protocol Manual
Table of Contents

Procedures

Procedures		
12 Lead ECG Including Transmission Capabilities	Procedure	1
Airway-Combitube	Procedure	2
Airway-Intubation Confirmation-CO2 Detector	Procedure	3
Airway-Intubation Confirmation-Esophageal Bulb	Procedure	4
Airway-Nasotracheal Intubation	Procedure	5
Airway-Nebulizer	Procedure	6
Airway-Needle Cricothyrotomy	Procedure	7
Airway-Orotracheal Intubation	Procedure	8
Airway-Respirator Operation	Procedure	9
Airway-Suctioning Advanced	Procedure	10
Airway-Suctioning Basic	Procedure	11
Airway-Ventilator Operation	Procedure	12
Assessment-Adult	Procedure	13
Assessment-Pediatric	Procedure	14
Blood Glucose Analysis	Procedure	15
Capnography	Procedure	16
Cardioversion	Procedure	17
Chest Decompression	Procedure	18
Childbirth	Procedure	19
CPR	Procedure	20
Defibrillation-Fully Automatic	Procedure	21
Defibrillation-Manual	Procedure	22
Defibrillation-Semiautomatic	Procedure	23
Epinephrine Auto Injector	Procedure	24
External Cardiac Pacing	Procedure	25
Injections-SQ/IM	Procedure	26
Intravenous (IV) Therapy-Venous Access Extremity	Procedure	27
MAST	Procedure	28
Nitroglycerine Administration - Assist	Procedure	29
Oral Glucose Administration	Procedure	30
Orthostatic Blood Pressure Measurement	Procedure	31
Oxygen Administration	Procedure	32
Pain Measurement	Procedure	33
Prescribed Albuterol Inhaler	Procedure	34
Pulse Oximetry	Procedure	35
Restraints	Procedure	36
Scene Safety/Scene Size-Up	Procedure	37
Spinal Immobilization	Procedure	38
Splinting	Procedure	39
Stroke Screen-Cincinnati	Procedure	40
Temperature Measurement	Procedure	41
Thrombolytic Screen	Procedure	42
Venous Access-Blood Draw	Procedure	43
Venous Access-External Jugular Access	Procedure	44
Venous Access-Intraosseous-Pediatric	Procedure	45
Wound Care	Procedure	46

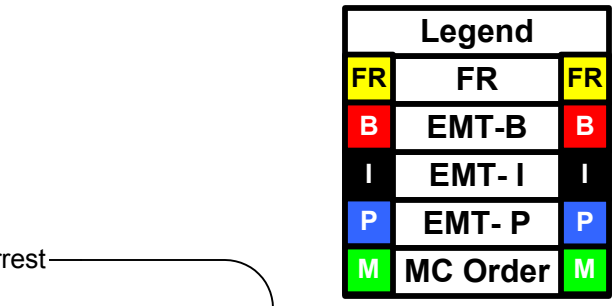
Policies

Appendix

Drug List

General

Universal Patient Care Protocol



FR **SCENE SAFETY/SCENE SIZE-UP** Including Body Substance Isolation **FR**

↓

Initial assessment
PEDIATRIC ASSESSMENT Procedure
ADULT ASSESSMENT Procedure
(The Broselow-Luten tape defines the pediatric patient)

Cardiac Arrest → **CARDIAC ARREST Protocol**

↓

FR **Vital signs per policy (Temperature if appropriate)** **FR**

↓

AIRWAY Protocol
(Adult or Pediatric)

↓

P **PULSE OXIMETRY** **P**

FR Consider **OXYGEN THERAPY** **FR**

↓

P Consider **CARDIAC MONITOR / 12 LEAD ECG** **P**

↓

Appropriate protocol → **M** Patient doesn't fit a protocol? **Contact Medical Control** **M**

↓

Transport Patient
(Transport based on patient's clinical condition and transport policy)

↓

M **Contact Medical Control PRN** **M**

Pearls:

- **Any patient contact which does not result in an EMS transport must have a completed disposition form.**
- **Exam: Minimal exam if not noted on the specific protocol is vital signs, mental status, and location of injury or complaint.**
- **Required vital signs on EVERY PATIENT include blood pressure, pulse, respirations, pain / severity.**
- **Pulse oximetry and temperature documentation is dependent on the specific complaint.**
- **A pediatric patient is defined by the Broselow-Luten tape. If the patient does not fit on the tape, they are considered adult.**
- Orthostatic vital sign procedure should be performed in situations where volume status is in question.

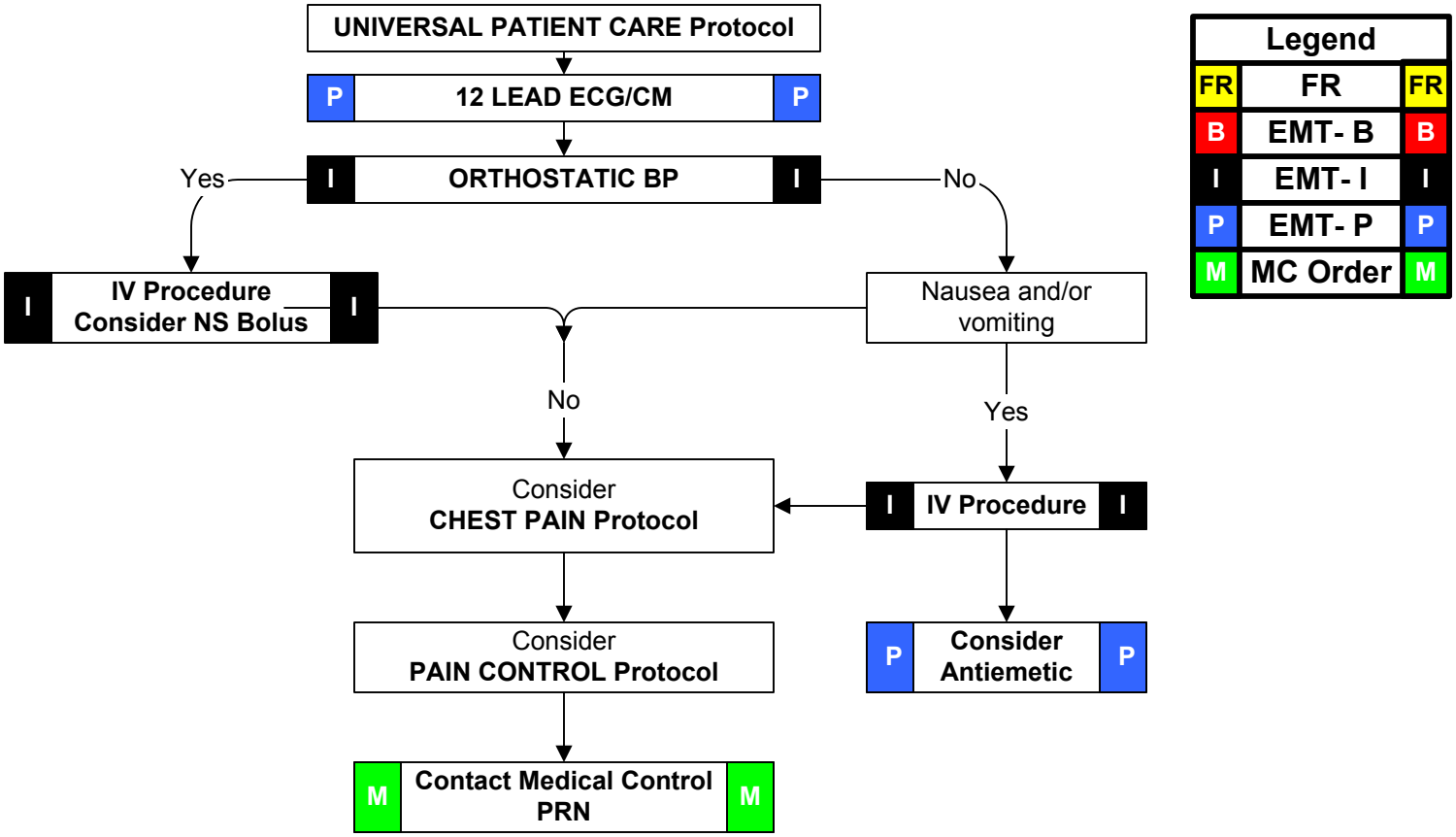
Abdominal Pain

History:
- Age
- Onset
- Palliation / Provocation
- Quality (crampy, constant, sharp, dull, etc.)
- Region / Radiation / Referred
- Severity (1-10)
- Time (duration / repetition)
- Fever
- Last meal eaten
- Last bowel movement / emesis
- Menstrual history (pregnancy)
- **SAMPLE**

Signs and Symptoms:
- Pain (location / migration)
- Tenderness
- Nausea
- Vomiting
- Diarrhea
- Dysuria
- Constipation
- Vaginal bleeding / discharge
- Pregnancy

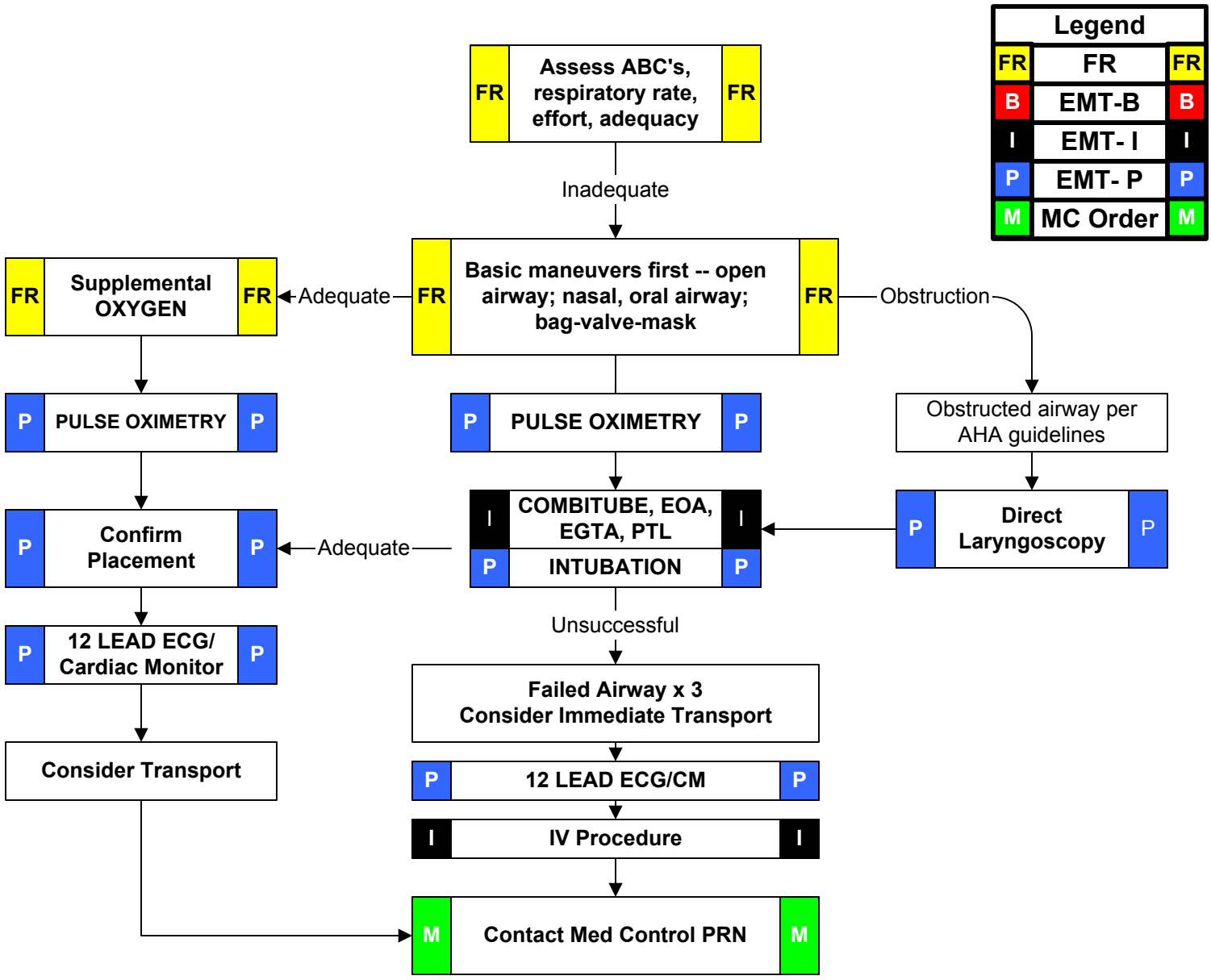
Associated symptoms:
(Helpful to localize source)
Fever, headache, weakness, malaise, myalgias, cough, headache, mental status changes, rash

Differential:
- **Pneumonia or Pulmonary embolus**
- **Liver (hepatitis, CHF)**
- **Peptic ulcer disease / Gastritis**
- **Gallbladder**
- **Myocardial infarction**
- **Pancreatitis**
- **Kidney stone**
- **Abdominal aneurysm**
- **Appendicitis**
- **Bladder / Prostate disorder**
- **Pelvic (PID, Ectopic pregnancy, Ovarian cyst)**
- **Spleen enlargement**
- **Diverticulitis**
- **Bowel obstruction**
- **Gastroenteritis (infectious)**



Pearls:
- **Required Exam: Mental Status, Skin, HEENT, Neck, Heart, Lung, Abdomen, Back, Extremities, Neuro**
- Document the mental status and vital signs prior to administration of Antiemetics.
- Abdominal pain in women of childbearing age should be treated as an ectopic pregnancy until proven otherwise.
- Antacids should be avoided in patients with renal disease.
- The diagnosis of abdominal aneurysm should be considered with abdominal pain in patients over 50.
- Appendicitis presents with vague, peri-umbilical pain which migrates to the RLQ over time.

Airway, Adult

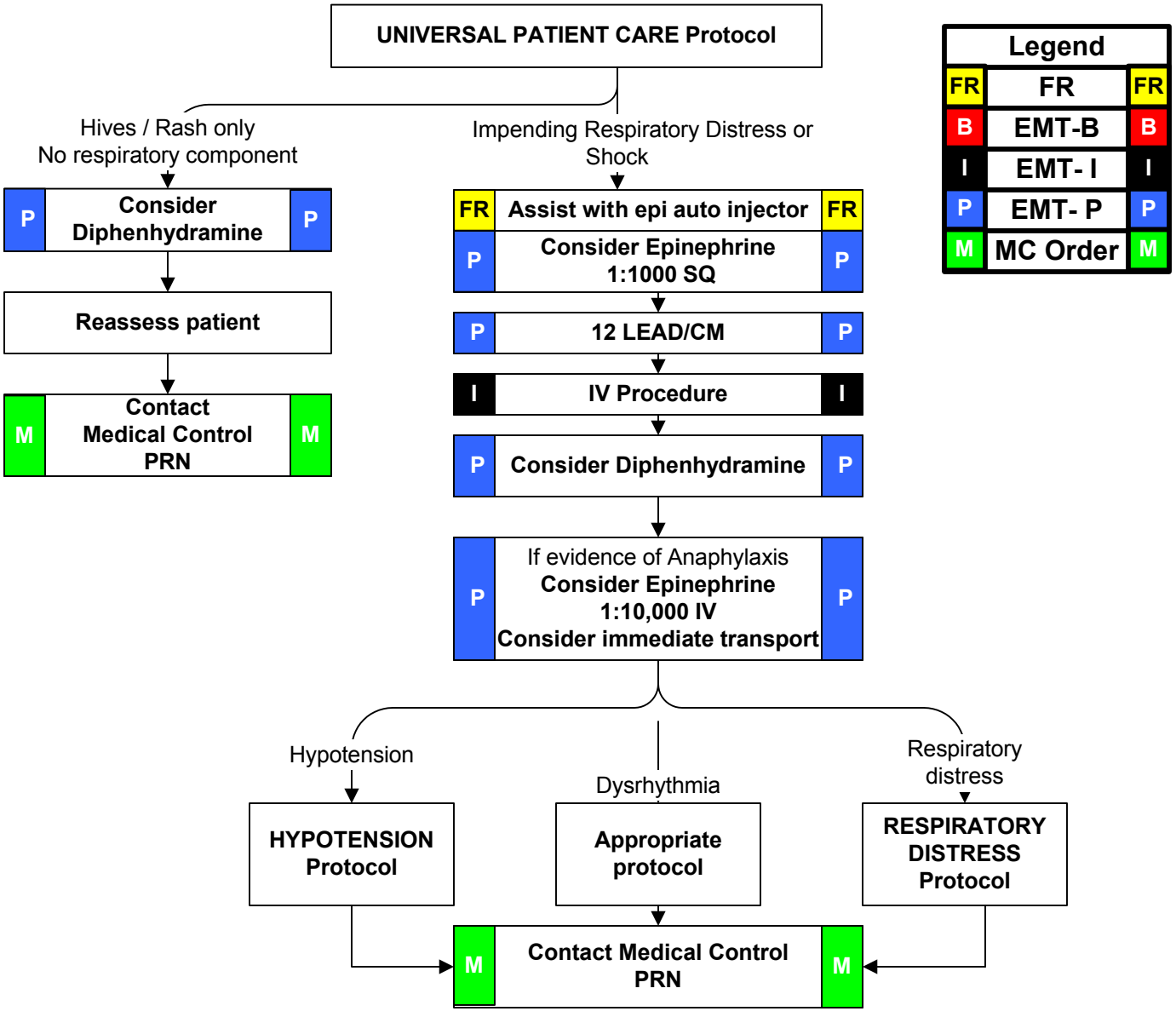


Pearls:

- **For this protocol, adult is defined as 12 years old or greater.**
- **Capnometry, Esophageal bulb, or end-tidal CO2 detector is mandatory with all methods of intubation. Document results.**
- Maintain C-spine immobilization for patients with suspected spinal injury.
- Do not assume hyperventilation is psychogenic -- use oxygen, not a paper bag.
- Sellick's maneuver should be used to assist with difficult intubations.
- Paramedics should consider using a combitube when they are unable to intubate a patient.
- Ventilation in head trauma should only be done to maintain a pCO2 of 25-30.
- Nasogastric tube placement should be considered in all intubated patients, but requires a **Medical Control Order**.
- Continuous pulse oximetry should be utilized in all patients with an inadequate respiratory function.
- Consider c-collar to maintain ETT placement for all intubated patients (REMOVE COLLAR upon patient TRANSFER).
- **Notify Medical Control AS EARLY AS POSSIBLE about the patient's difficult/failed airway. Sedation may be necessary.**

Allergic Reaction

History	Signs and Symptoms:	Differential:
• Onset and location • Insect sting or bite • Food allergy / exposure • Medication allergy / exposure • New clothing, soap, detergent • Past history of reactions • **SAMPLE**	• Itching or hives • Coughing / wheezing or respiratory distress • Chest or throat constriction • Difficulty swallowing • Hypotension or shock • Edema	• **Urticaria (rash only)** • **Anaphylaxis (systemic effect)** • **Shock (vascular effect)** • **Angioedema (drug induced)** • **Aspiration / Airway obstruction** • **Vasovagal event** • **Asthma or COPD** • **CHF**

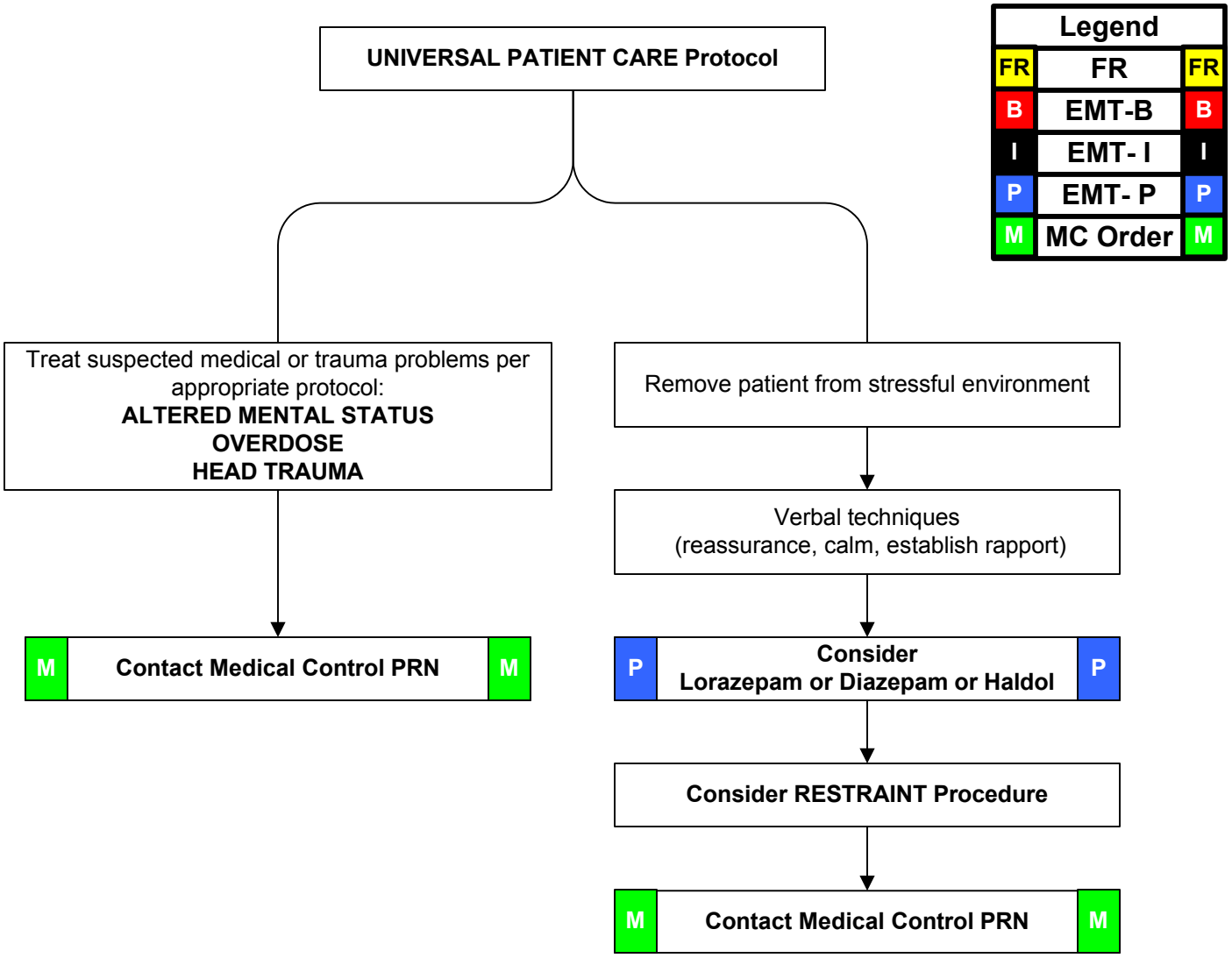


Pearls:

- **Exam: Mental Status, Skin, Heart, Lungs**
- **Contact Medical Control prior to administering epinephrine in patients who are >50 years of age, have a history of cardiac disease, or if the patient's heart rate is >150. Epinephrine may precipitate cardiac ischemia. These patients should receive a 12 lead ECG.**
- Any patient with respiratory symptoms or extensive reaction should receive IV or IM diphenhydramine.
- The shorter the onset from symptoms to contact, the more severe the reaction.

Behavioral

History:	Signs and Symptoms:	Differential:
• Situational crisis • Psychiatric illness/ medications • Injury to self or threats to others • Medic alert tag • Substance abuse / overdose • Diabetes • **SAMPLE**	• Anxiety, agitation, confusion • Affect change, hallucinations • Delusional thoughts, bizarre behavior • Combative, violent • Expression of suicidal / homocidal thoughts	• **See ALTERED MENTAL STATUS** • **Alcohol Intoxication** • **Toxin / Substance abuse** • **Medication effect / overdose** • **Withdrawl syndromes** • **Depression** • **Bipolar (manic-depressive)** • **Schizophrenia** • **Anxiety disorders**

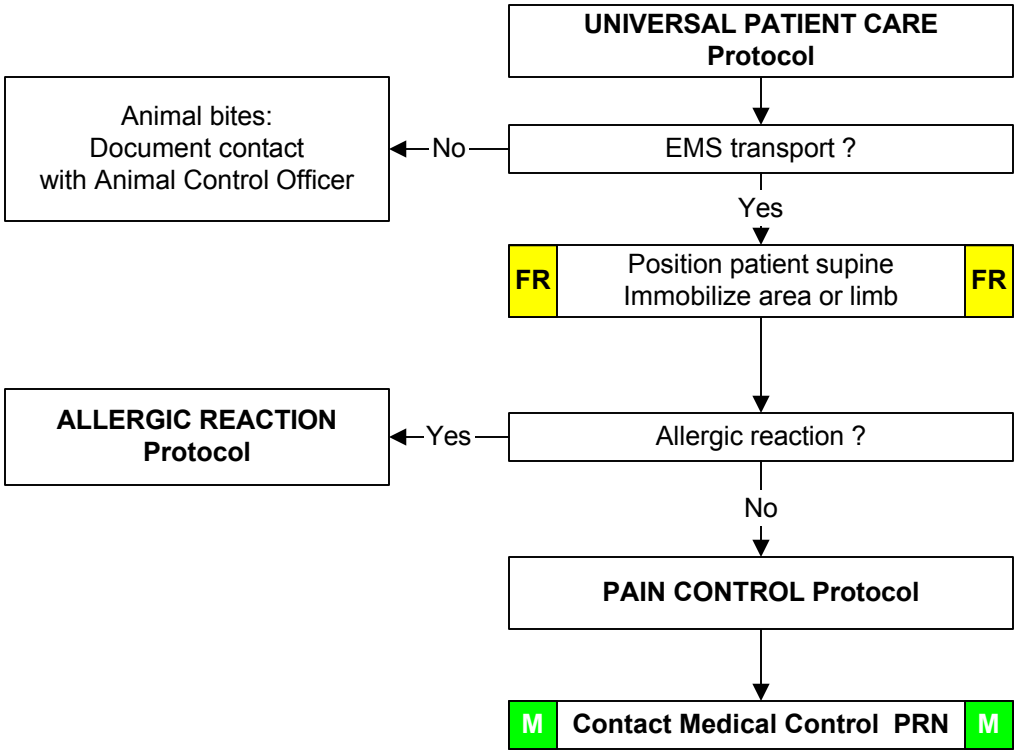


Pearls:

- **Exam: Mental Status, Skin, Heart, Lungs, Neuro**
- **Your safety first!!**
- Be sure to consider all possible medical/trauma causes for behavior (hypoglycemia, overdose, substance abuse, hypoxia, head injury, etc.)
- Do not irritate the patient with a prolonged exam.
- Do not overlook the possibility of associated domestic violence or child abuse.

Bites and Envenomations

History:	Signs and Symptoms:	Differential:
• Type of bite / sting • Description, photo, or actual **dead** creature needed for identification • Time, location, size of bite / sting • Previous reaction to bite / sting • Domestic vs. Wild • Tetanus and Rabies risk • Immunocompromised patient • **SAMPLE**	• Rash, skin break, wound • Pain, soft tissue swelling, redness • Blood oozing from the bite wound • Evidence of infection • Shortness of breath, wheezing • Allergic reaction, hives, itching • Hypotension or shock	• **Animal bite** • **Human bite** • **Snake bite (poisonous)** • **Spider bite (poisonous)** • **Insect sting / bite (bee, wasp, ant, tick)** • **Infection risk** • **Rabies risk** • **Tetanus risk** • **Marine Life**



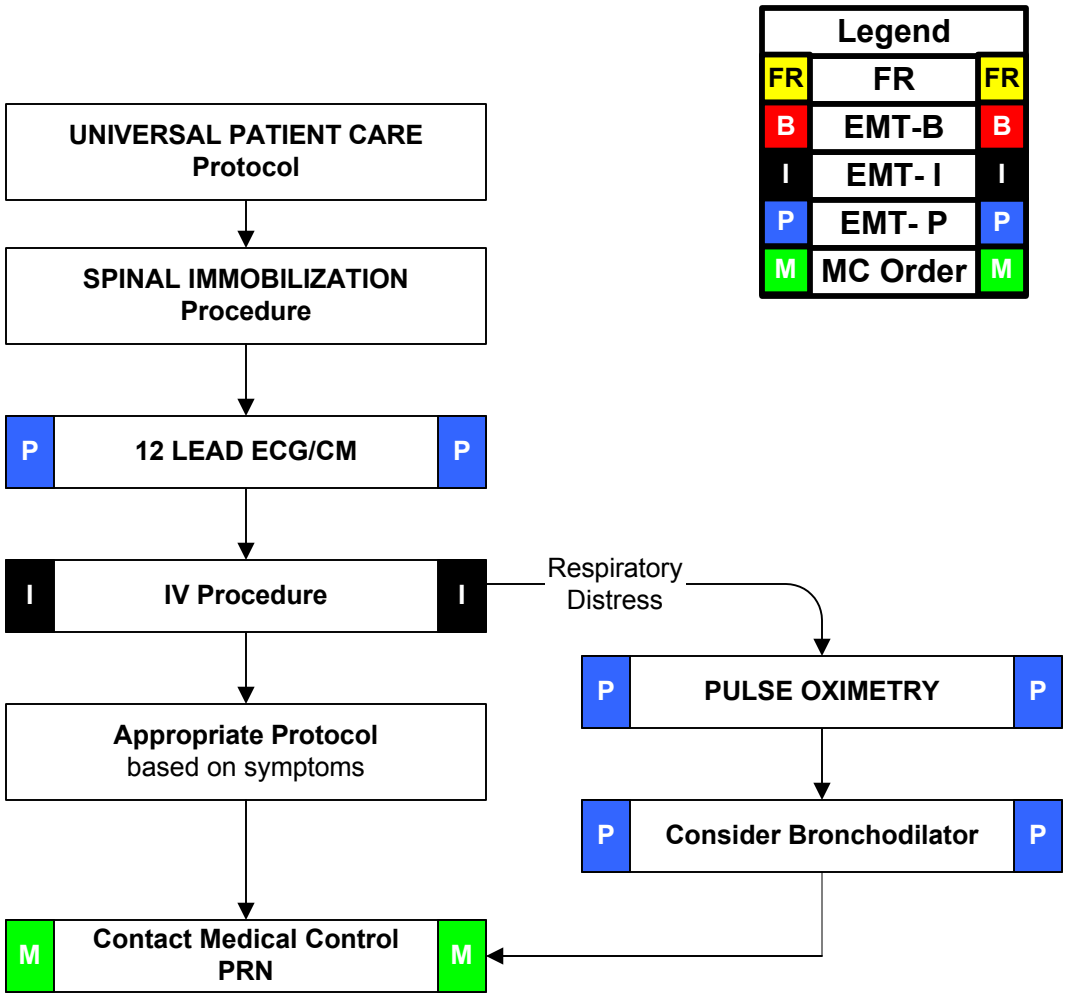
Legend		
FR	FR	FR
B	EMT-B	B
I	EMT- I	I
P	EMT- P	P
M	MC Order	M

Pearls:

- **Exam: Mental Status, Skin, Extremities (Location of injury), and a complete Neck, Lung, Heart, Abdomen, Back, and Neuro exam if systemic effects are noted**
- Human bites are much worse than animal bites.
- Carnivore bites are much more likely to become infected and all have risk of Rabies exposure.
- Cat bites may progress to infection rapidly due to a specific bacteria (Pasteurella multicoda).
- Poisonous snakes in this area are generally of the pit viper family: rattlesnake, copperhead, and water moccasin.
  - Coral snake bites are rare: Very little pain but very toxic. "Red on yellow - kill a fellow, red on black - venom lack."
  - Amount of envenomation is variable, generally worse with larger snakes and early in spring.
  - If no pain or swelling, envenomation is unlikely.
- Black Widow spider bites tend to be minimally painful, but over a few hours, muscular pain and severe abdominal pain may develop (spider is black with red hourglass on belly).
- Brown Recluse spider bites are minimally painful to painless. Little reaction is noted initially but tissue necrosis at the site of the bite develops over the next few days (brown spider with fiddle shape on back).
- Evidence of infection: swelling, redness, drainage, fever, red streaks proximal to wound.
- Immunocompromised patients are at an increased risk for infection: diabetes, chemotherapy, transplant patients.
- Consider contacting the Mississippi Poison Control Center for guidance. (1-800-222-1222)

Drowning / Near Drowning

History:	Signs and Symptoms:	Differential:
• Submersion in water regardless of depth • Possible history of trauma (ie: diving board) • Duration of immersion • Temperature of water • **SAMPLE**	• Unresponsive • Mental status changes • Decreased or absent vital signs • Vomiting • Coughing	• **Trauma** • **Pre-existing medical problem** • **Pressure injury (diving)** **Barotrauma** **Decompression sickness**



Pearls:

- **Exam: Trauma Survey, Head, Neck, Chest, Abdomen, Pelvis, Back, Extremities, Skin, Neuro**
- **If found in cold water, there is no time limit -- resuscitate all.**
- All victims should be transported for evaluation due to potential for worsening over the next several hours.
- **Drowning is a leading cause of death among would-be rescuers.**
- **Allow appropriately trained and certified rescuers to remove victims from areas of danger.**
- **With pressure injuries (decompression / barotrauma), consider transport or availability of a hyperbaric chamber.**

Electrical Injuries

History:	Signs and Symptoms:	Differential:
• Lightning or electrical exposure • Single or multiple victims • Trauma secondary to fall from highwire or MVC into line • Duration of exposure • Voltage and current (AC / DC) • **SAMPLE**	• Burns • Pain • Entry and exit wounds • Hypotension or shock • Arrest	• **Cardiac arrest** • **Seizure** • **Burns (see Burn Protocol)** • **Multiple trauma**

UNIVERSAL CARE PATIENT Protocol

↓

SPINAL IMMOBILIZATION Procedure

↓

P **12-LEAD ECG/CM** P

↓

I **IV Procedure** I

↓

Focused history and physical exam:
Look for entry / exit wounds

↓

WOUND CARE Procedure

↓

PAIN CONTROL Protocol

↓

Appropriate Protocol
based on patient symptoms

↓

M **Contact Medical Control PRN** M

Legend		
FR	FR	FR
B	EMT-B	B
I	EMT- I	I
P	EMT- P	P
M	MC Order	M

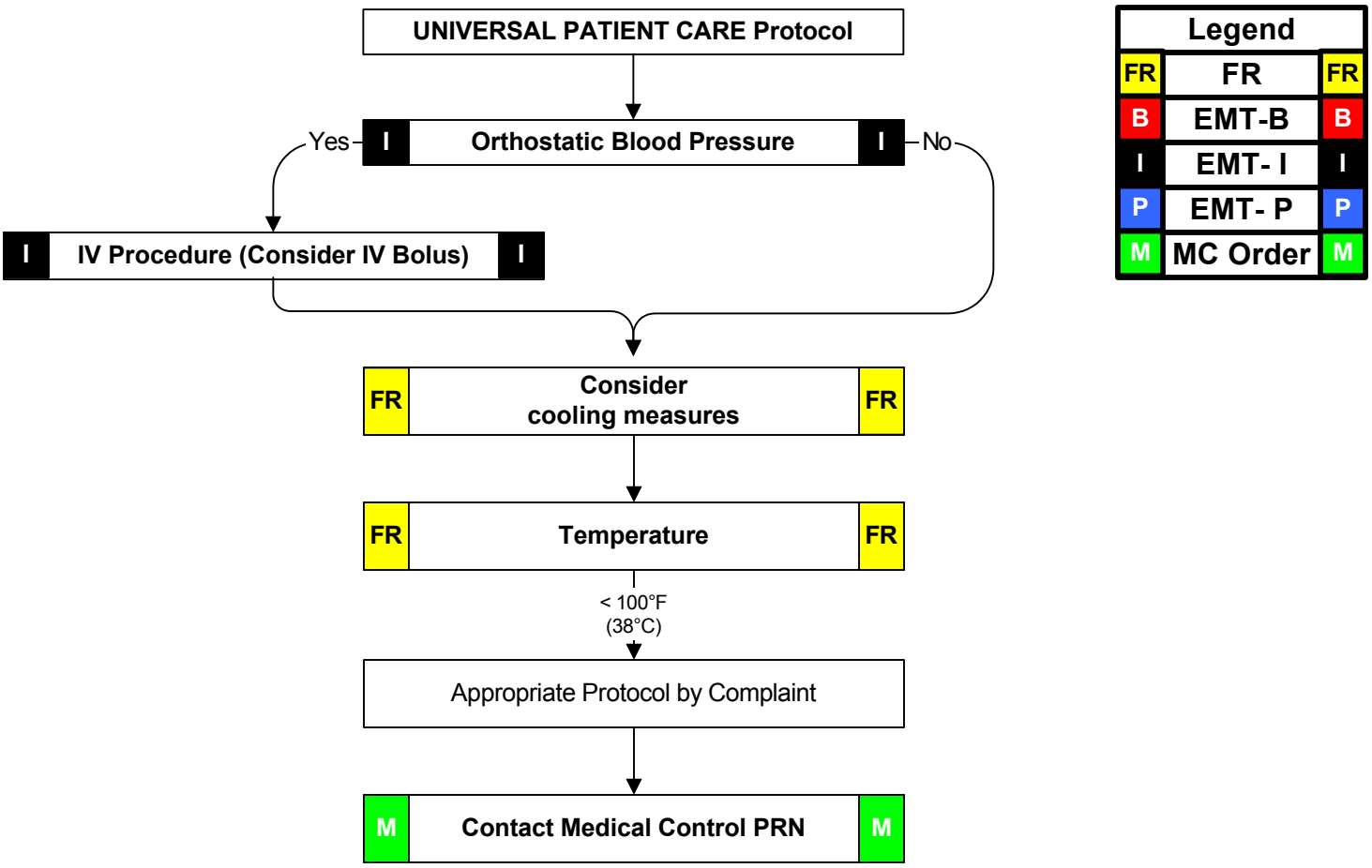
Pearls:

- **Exam: Mental Status, HEENT, Neck, Heart, Lungs, Abdomen, Extremities, Back, Neuro**
- Ventricular fibrillation and asystole are the most common dysrhythmias.
- Damage is often hidden; the most severe damage will occur in muscle, vessels and nerves.
- In a mass casualty lightning incident, attend to victims in full arrest first. If the victim did not arrest initially, it is likely they will survive.
- Do not overlook other trauma (i.e. falls).
- Lightning is a massive DC shock most often leading to asystole as a dysrhythmia.
- In lightning injuries, most of the current will travel over the body surface producing flash burns.
- **Scene safety is of utmost importance when entering areas where these type victims are found.**

Fever

History:	Signs and Symptoms:	Differential:

• Age
• Duration of fever
• Severity of fever
• Immunocompromised (transplant, HIV, diabetes, cancer)
• Environmental exposure
• Last Acetaminophen or Ibuprofen
• **SAMPLE**
	• Warm
	• Flushed
	• Sweaty
	• Chills/Rigors
	Associated Symptoms:
	(Helpful to localize source)
	• Malaise, cough, chest pain, headache, dysuria, abdominal pain, mental status changes, rash
		• **Infections / Sepsis**
		• **Cancer / Tumors / Lymphomas**
		• **Medication or drug reaction**
		• **Connective tissue disease**
		  • **Arthritis**
		  • **Vasculitis**
		• **Hyperthyroid**
		• **Heat Stroke**



Pearls:

- **Exam: Mental Status, Skin, HEENT, Neck, Heart, Lungs, Abdomen, Back, Extremities, Neuro**
- Febrile seizures are more likely in children with a history of febrile seizures and with a rapid elevation in temperature.
- Temperature may be decreased by a combination of 4 methods:
  - **Radiation:** Heat loss to air (unwrap or remove clothing)
  - **Evaporation:** Heat loss through the evaporation of sweat or liquid from the skin (tepid water bath to skin)
  - **Convection:** Heat loss through the movement of air currents over the skin (increase air movement to skin)
  - **Conduction:** Heat loss through the contact with solid substances (with heat stroke use cool packs per protocol)
- Rehydration with fluids increased the patients ability to sweat and improves heat loss.
- All patients should have drug allergies documented prior to administering pain medications.

Hyperglycemia

History:	Signs and Symptoms:	• **Differential:**
• Known diabetic, medic alert tag • Medications (Insulin, Diabinese, Orinase, Micronase) • Report of illicit drug use or toxic ingestion • History of trauma • Onset; duration • Seizure activity • Infection • **SAMPLE**	• Hyperventilation • Acetone breath (sweet, fruity odor) • Kussmaul's respirations • Dry mouth, intense thirst • Warm, red, dry skin • Abdominal pain and/or nausea and vomiting • Tachycardia • Postural hypotension • Polyuria • Polydipsia	• Type II Diabetes • Cardiac, renal disease • Stress related incidents such as infection, trauma, burns, MI • Use of certain medications such as thiazide, diuretics, glucocorticoids, phenytoin, propranolol, immunosuppressives • Electrolyte abnormalities

UNIVERSAL CARE PROTOCOL
Protocol

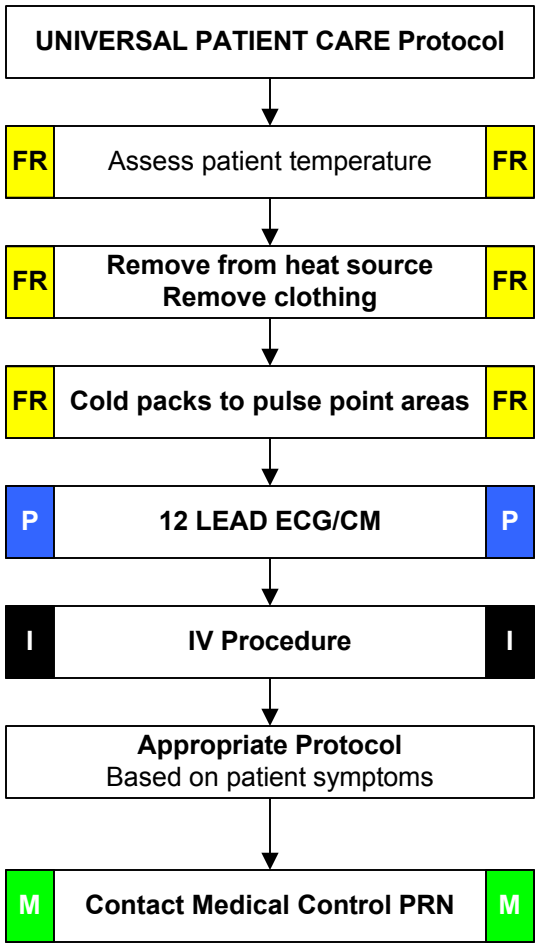
P	**12 LEAD ECG/ CM**	P
I	**IV Procedure**	I
I	**BLOOD GLUCOSE (unconscious pt. only)**	I
P	**BLOOD GLUCOSE**	P
P	If patient is experiencing nausea and/or vomiting, **consider Antiemetic**	P
M	**Contact Medical Control PRN**	M

Legend		
FR	FR	FR
B	EMT-B	B
I	EMT- I	I
P	EMT- P	P
M	MC Order	M

Pearls:
- **Exam: Mental Status, HEENT, Skin, Heart, Lungs, Abdomen, Back Extremities, Neuro**

Hyperthermia

History:	Signs and Symptoms:	Differential:
• Age • Exposure to increased temperatures and / or humidity • Extreme exertion • Time and length of exposure • Poor PO intake • Fatigue and / or muscle cramping • **SAMPLE**	• Altered mental status or unconsciousness • Hot, dry or sweaty skin • Hypotension or shock • Seizures • Nausea	• **Fever (Infection)** • **Dehydration** • **Medications** • **Hyperthyroidism (Storm)** • **Delirium tremems (DT's)** • **Heat cramps** • **Heat exhaustion** • **Heat stroke** • **CNS lesions or tumors**



Legend		
FR	FR	FR
B	EMT-B	B
I	EMT- I	I
P	EMT- P	P
M	MC Order	M

Pearls:

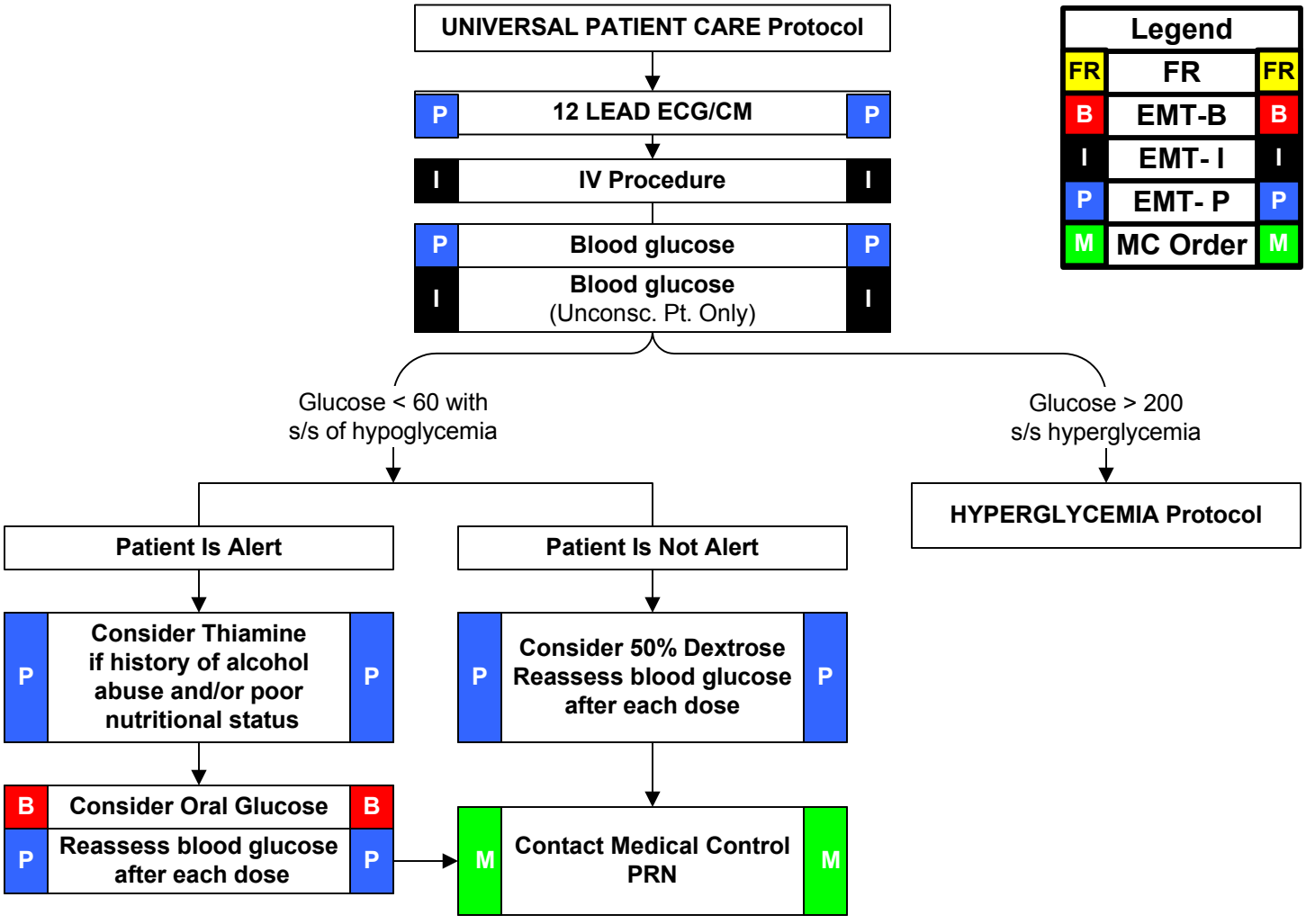
- **Exam: Mental Status, Skin, HEENT, Heart, Lungs, Neuro**
- Extremes of age are more prone to heat emergencies (i.e. young and old).
- Predisposed by use of: tricyclic antidepressants, phenothiazines, anticholinergic medications, and alcohol.
- Cocaine, Amphetamines, and Salicylates may elevate body temperatures.
- Sweating generally disappears as body temperature rises above 104° F (40° C).
- Intense shivering may occur as patient is cooled.
- **Heat Cramps** consists of benign muscle cramping 2° to dehydration and is not associated with an elevated temperature.
- **Heat Exhaustion** consists of dehydration, salt depletion, dizzyness, fever, mental status changes, headache, cramping, nausea and vomiting. Vital signs usually consist of tachycardia, hypotension, and an elevated temperature.
- **Heat Stroke** consists of dehydration, tachycardia, hypotension, temperature >104° F (40° C), and an altered mental status.

Hypoglycemia

History:
- Known diabetic, medic alert tag
- Medications (Insulin, Diabinese, Orinase, Micronase)
- Report of illicit drug use or toxic ingestiion
- History of trauma
- **SAMPLE**
- Onset; duration
- Seizure activity; fever

Signs/Symptoms:
- Decreased mental status
- Bizarre behavior; intoxicated appearance
- Cool, diaphoretic skin
- Hunger
- Anxiety
- Combativeness
- Headache
- Tremors
- Faintness
- Seizures, coma

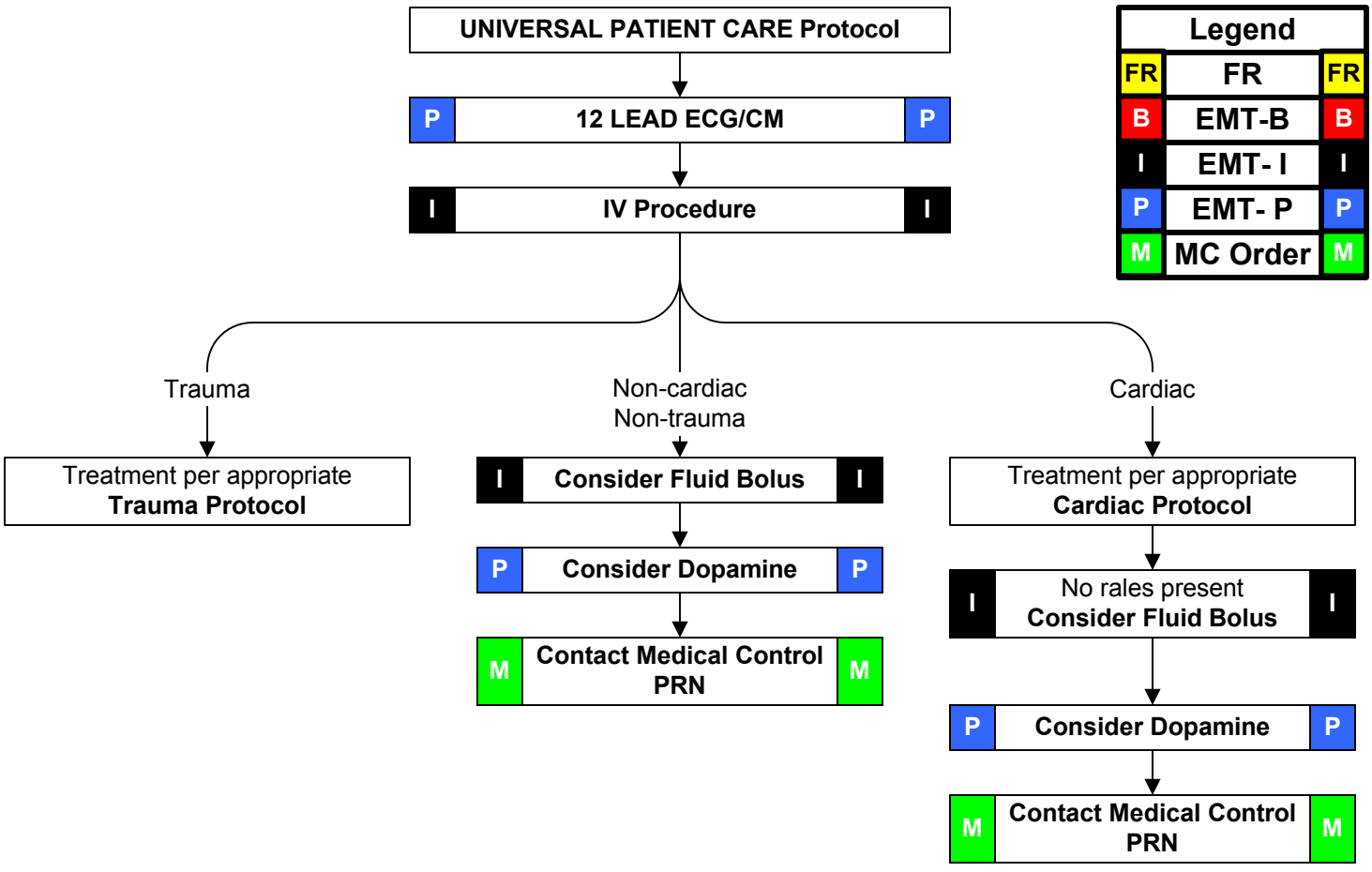
Differential:
- **Head trauma**
- **CNS (stroke, tumor, seizure, infection)**
- **Cardiac (MI, CHF)**
- **Infection**
- **Thyroid (hyper / hypo)**
- **Shock (septic, metabolic, traumatic)**
- **Diabetes (hyper / hypoglycemia)**
- **Toxicologic**
- **Acidosis / Alkalosis**
- **Environmental exposure**
- **Pulmonary (Hypoxia)**
- **Psychiatric disorder**



Pearls:
- **Exam: Mental Status, HEENT, Skin, Heart, Lungs, Abdomen, Back, Extremities, Neuro**
- It is safer to assume hypoglycemia than hyperglycemia if doubt exists.
- Do not let alcohol confuse the clinical picture. Alcoholics frequently develop hypoglycemia.
- Consider Restraints if necessary for patient's and/or personnel's protection per the restraint procedure.

Hypotension
Shock (nontrauma)

History:	Signs and Symptoms:	Differential:
• Blood loss - vaginal or gastrointestinal bleeding, AAA, ectopic • Fluid loss - vomiting, diarrhea, fever • Infection • Cardiac ischemia (MI, CHF) • Allergic reaction • Pregnancy • **SAMPLE**	• Restlessness, confusion • Weakness, dizziness • Weak, rapid pulse • Pale, cool, clammy skin • Delayed capillary refill • Hypotension • Coffee-ground emesis • Tarry stools	• **Shock** **Hypovolemic** **Cardiogenic** **Septic** **Neurogenic** **Anaphylactic** • **Ectopic pregnacy** • **Dysrhythmias** • **Pulmonary embolus** • **Tension pneumothorax** • **Medication effect / overdose** • **Vasovagal** • **Physiologic (pregnancy)**

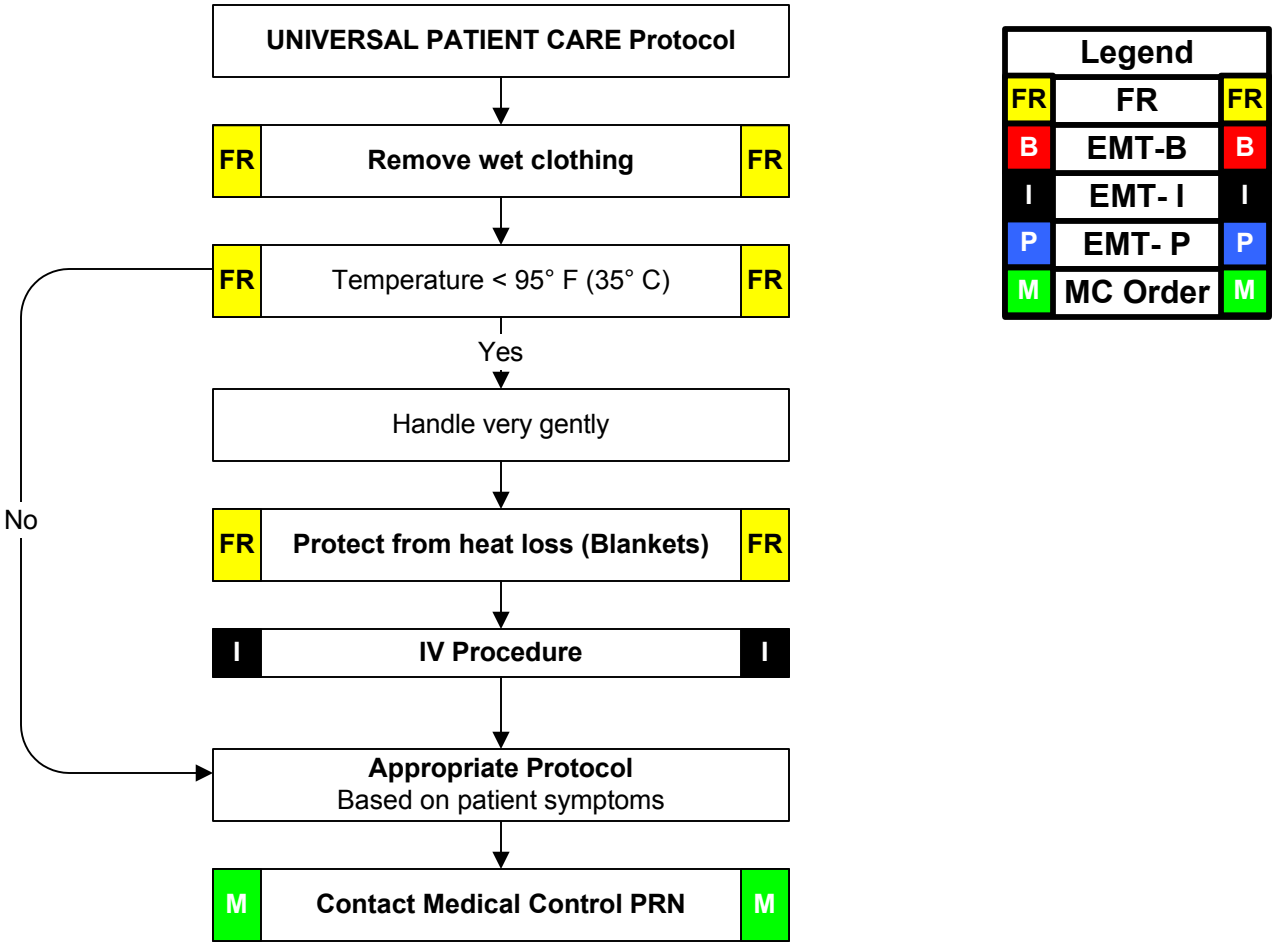


Pearls:

- **Exam: Mental Status, Skin, Heart, Lungs, Abdomen, Back, Extremities, Neuro**
- Hypotension can be defined as a systolic blood pressure of less than 100.
- Consider performing orthostatic vital signs on patients in nontrauma situations if suspected blood or fluid loss.
- Consider all possible causes of shock and treat per appropriate protocol.

Hypothermia

History:	Signs and Symptoms:	Differential:
• Exposure to environment even in normal temperatures • Exposure to extreme cold • Extremes of age • Drug use: Alcohol, barbituates • Infections / Sepsis • Length of exposure / Wetness • Rule out trauma • **SAMPLE**	• Cold, clammy • Shivering • Mental status changes • Extremity pain or sensory abnormality • Bradycardia • Hypotension or shock	• **Sepsis** • **Environmental exposure** • **Hypoglycemia** • **CNS dysfunction** **Stroke** **Head injury** **Spinal cord injury**

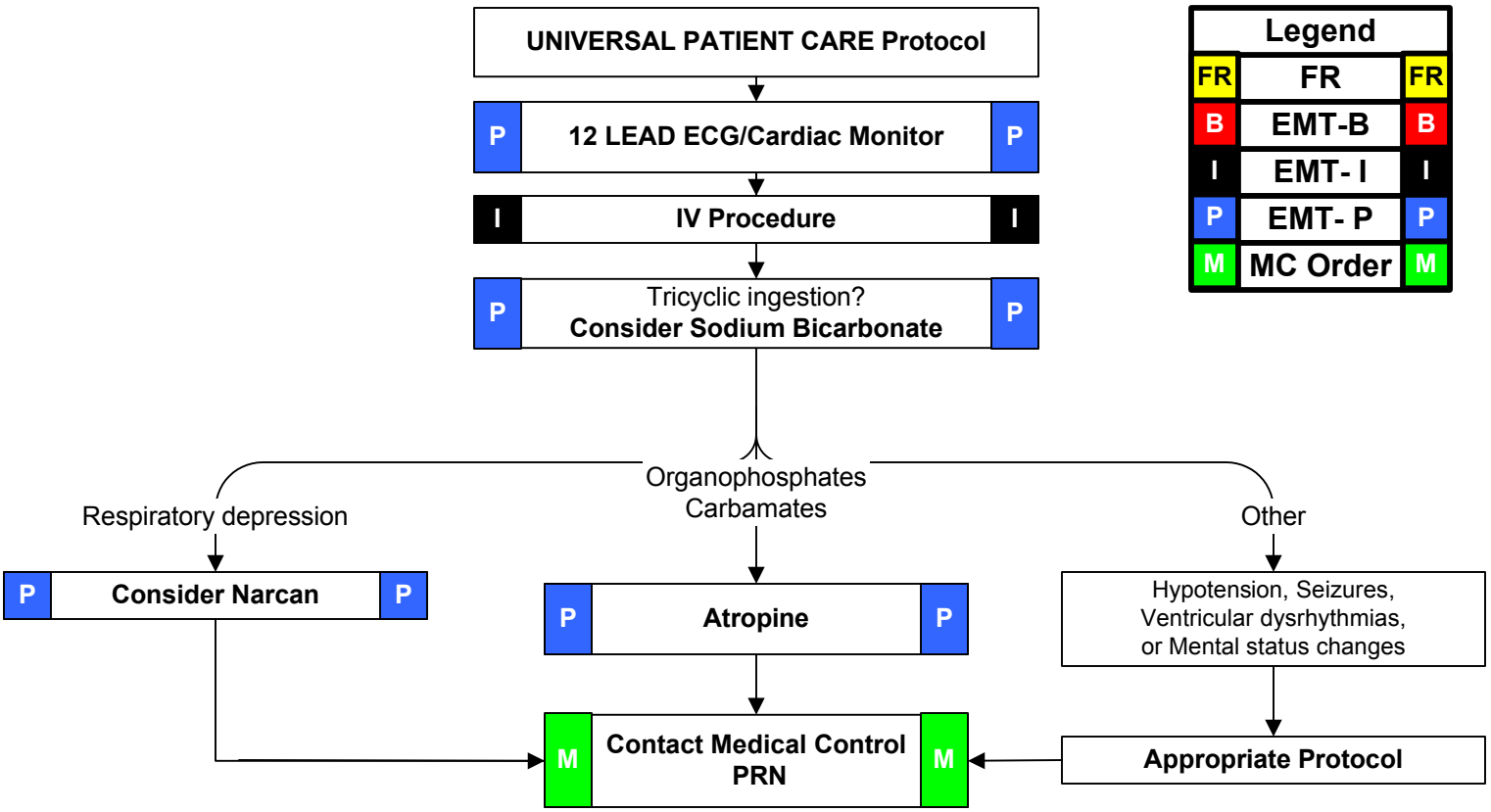


Pearls:

- **Exam: Mental Status, Heart, Lungs, Abdomen, Extremities, Neuro**
- **NO PATIENT IS DEAD UNTIL WARM AND DEAD.**
- Defined as core temperature < 35° C (95° F).
- Extremes of age are more susceptable (i.e. young and old).
- With temperature less than 31° C (88° F) ventricular fibrillation is common cause of death. Handling patients gently may prevent this. (rarely responds to defibrillation).
- If the temperature is unable to be measured, treat the patient based on the suspected temperature.
- Hypothermia may produce severe bradycardia.
- Shivering stops below 32° C (90° F).
- Consider witholding CPR if patient has organized rhythm. Discuss with **Medical Control.**

Overdose
Toxic Ingestion

History:	Signs and Symptoms:	Differential:
• Ingestion or suspected ingestion of a potentially toxic substance • Substance ingested, route, quantity • Time of ingestion • Reason (suicidal, accidental, criminal) • Available medications in home • **SAMPLE**	• Mental status changes • Hypotension / hypertension • Decreased respiratory rate • Tachycardia, dysrhythmias • Seizures	• **Tricyclic antidepressants (TCAs)** • **Acetaminophen (tylenol)** • **Depressants** • **Stimulants** • **Anticholinergic** • **Cardiac medications** • **Solvents, Alcohols, Cleaning agents** • **Insecticides (organophosphates)**

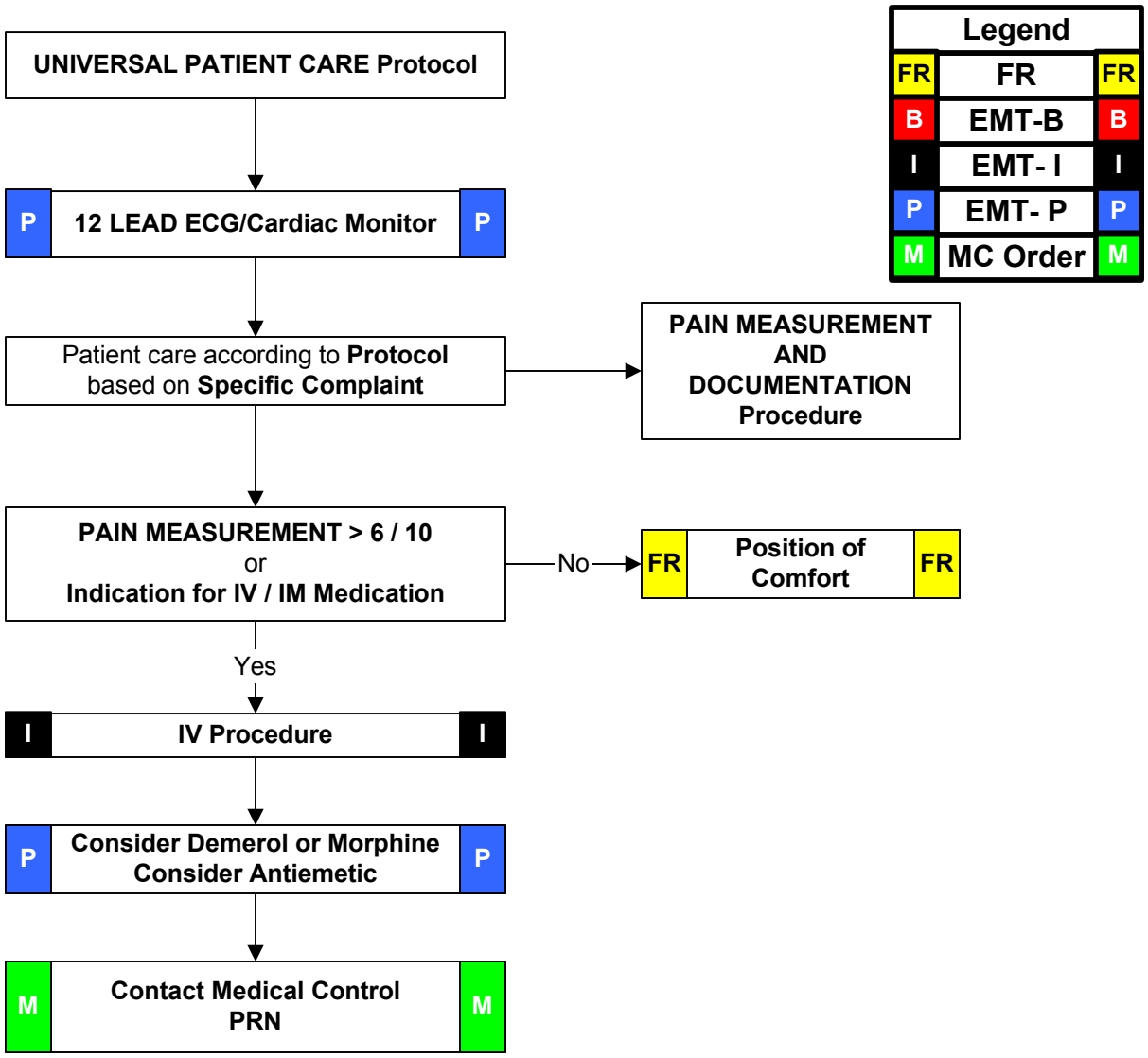


Pearls:

- **Exam: Mental Status, Skin, HEENT, Heart, Lungs, Abdomen, Extremities, Neuro**
- Do not rely on patient history of ingestion, especially in suicide attempts.
- Bring bottles, contents, emesis to ED.
- **Tricyclic:** 4 major areas of toxicity: seizures, dysrhythmias, hypotension, decreased mental status or coma; rapid progression from alert mental status to death.
- **Acetaminophen:** initially normal or nausea/vomiting. If not detected and treated, causes irreversible liver failure.
- **Depressants:** decreased HR, decreased BP, decreased temperature, decreased respirations, non-specific pupils.
- **Stimulants:** increased HR, increased BP, increased temperature, dilated pupils, seizures.
- **Anticholinergic:** increased HR, increased temperature, dilated pupils, mental status changes.
- **Cardiac Meds:** dysrhythmias and mental status changes.
- **Solvents:** nausea, vomiting, and mental status changes.
- **Insecticides:** increased or decreased HR, increased secretions, nausea, vomiting, diarrhea, pinpoint pupils.
- An NG tube is required for charcoal administration in all patients with (or with potential) for mental status changes.
- Consider restraints if necessary for patient's and/or personnel's protection per the **RESTRAINT Procedure**.
- Consider contacting the Mississippi Poison Control Center for guidance. (1-800-222-1222)

Pain Control

History:	Signs and Symptoms:	Differential:
• Age • Location • Duration • Severity (1 - 10) • Drug allergies • **SAMPLE**	• Severity (pain scale) • Quality (sharp, dull, etc.) • Radiation • Relation to movement, respiration • Increased with palpation of area • **OPQRST**	• **Per the specific protocol** • **Musculoskeletal** • **Visceral (abdominal)** • **Cardiac** • **Pleural / Respiratory** • **Neurogenic** • **Renal (colic)**

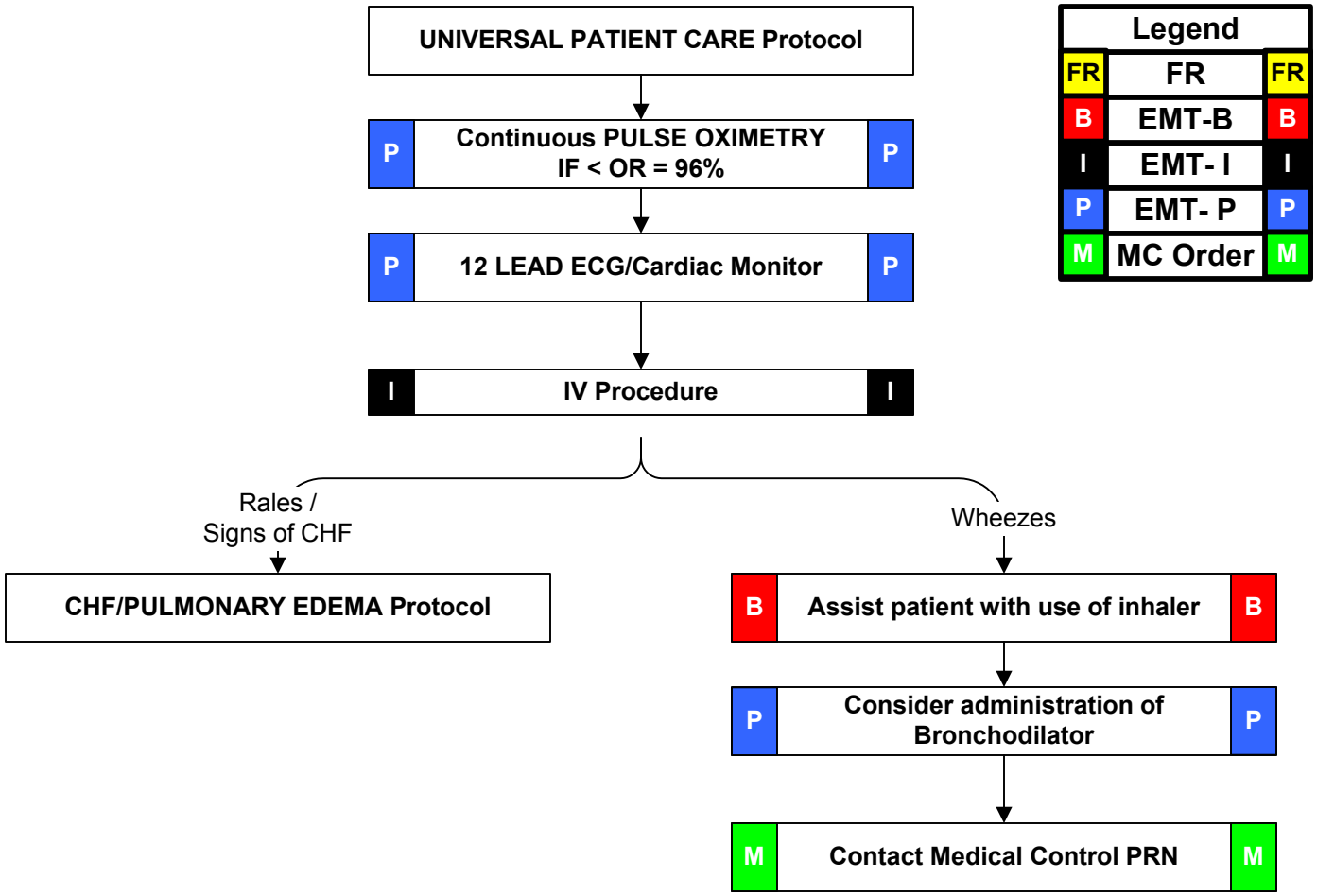


Pearls:

- **Exam: Mental Status, Area of Pain, Neuro**
- **Pain severity (0-10) is a vital sign to be recorded pre and post IV or IM medication delivery and at disposition.**
- **Vital signs should be obtained pre, 15 minutes post, and at disposition with all pain medications.**
- Contraindications to Morphine use include hypotension, head injury, respiratory distress or severe COPD.
- All patients should have drug allergies documented prior to administering pain medications.
- All patients who receive IM or IV medications must be observed 15 minutes for drug reaction.

Respiratory Distress

History:	Signs and Symptoms:	Differential:
• Asthma; COPD -- chronic bronchitis, emphysema, congestive heart failure • Home treatment (oxygen, nebulizer) • Medications (Theophylline, steroids, inhalers) • Toxic exposure, smoke inhalation • **SAMPLE**	• Shortness of breath • Pursed lip breathing • Decreased ability to speak • Increased respiratory rate and effort • Wheezing, rhonchi • Use of accessory muscles • Fever, cough • Tachycardia	• **Asthma** • **Anaphylaxis** • **Aspiration** • **COPD (Emphysema, Bronchitis)** • **Pleural Effusion** • **Pneumonia** • **Pulmonary Embolus** • **Pneumothorax** • **Cardiac (MI or CHF)** • **Pericardial Tamponade** • **Hyperventilation** • **Inhaled toxin (Carbon Monoxide, etc.)**

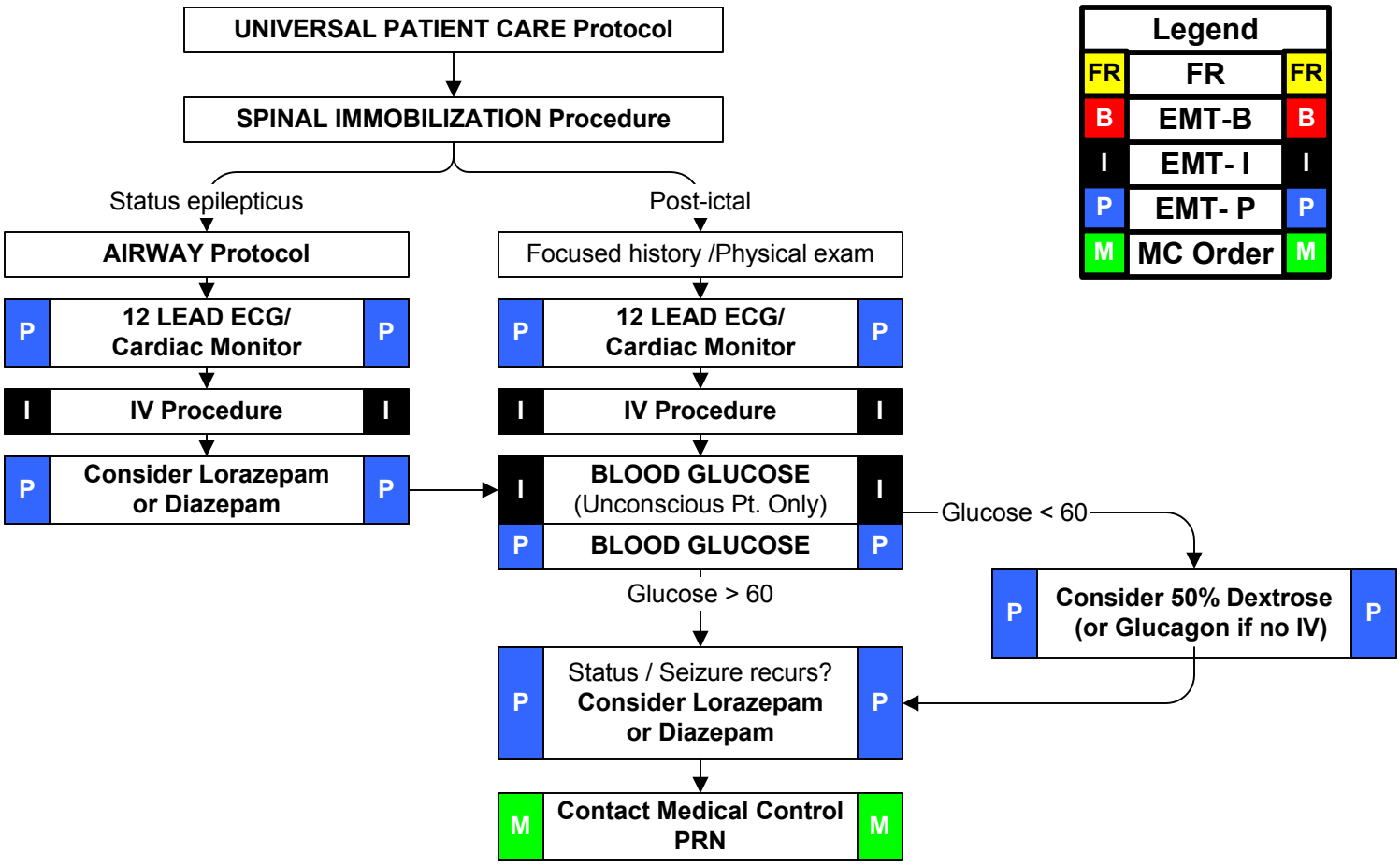


Pearls:

- **Exam: Mental Status, HEENT, Skin, Neck, Heart, Lungs, Abdomen, Extremities, Neuro**
- **Pulse oximetry** should be monitored continously if initial saturation is < or = 96%, or there is a decline in patients status despite normal pulse oximetry readings.
- Status asthmaticus -- severe prolonged asthma attack unresponsive to therapy -- life threatening!
- A silent chest in respiratory distress is a pre-respiratory arrest sign.

Seizure

History:	Signs and Symptoms:	Differential:
• Reported / witnessed seizure activity • Previous seizure history • Medical alert tag information • Seizure medications • History of trauma • History of diabetes • History of pregnancy • **SAMPLE**	• Decreased mental status • Sleepiness • Incontinence • Observed seizure activity • Evidence of trauma	• **CNS (Head) trauma** • **Tumor** • **Metabolic, Hepatic, or Renal failure** • **Hypoxia** • **Electrolyte abnormality (Na, Ca, Mg)** • **Drugs, Medications, Non-compliance** • **Infection / Fever** • **Alcohol withdrawal** • **Eclampsia** • **Stroke** • **Hyperthermia**

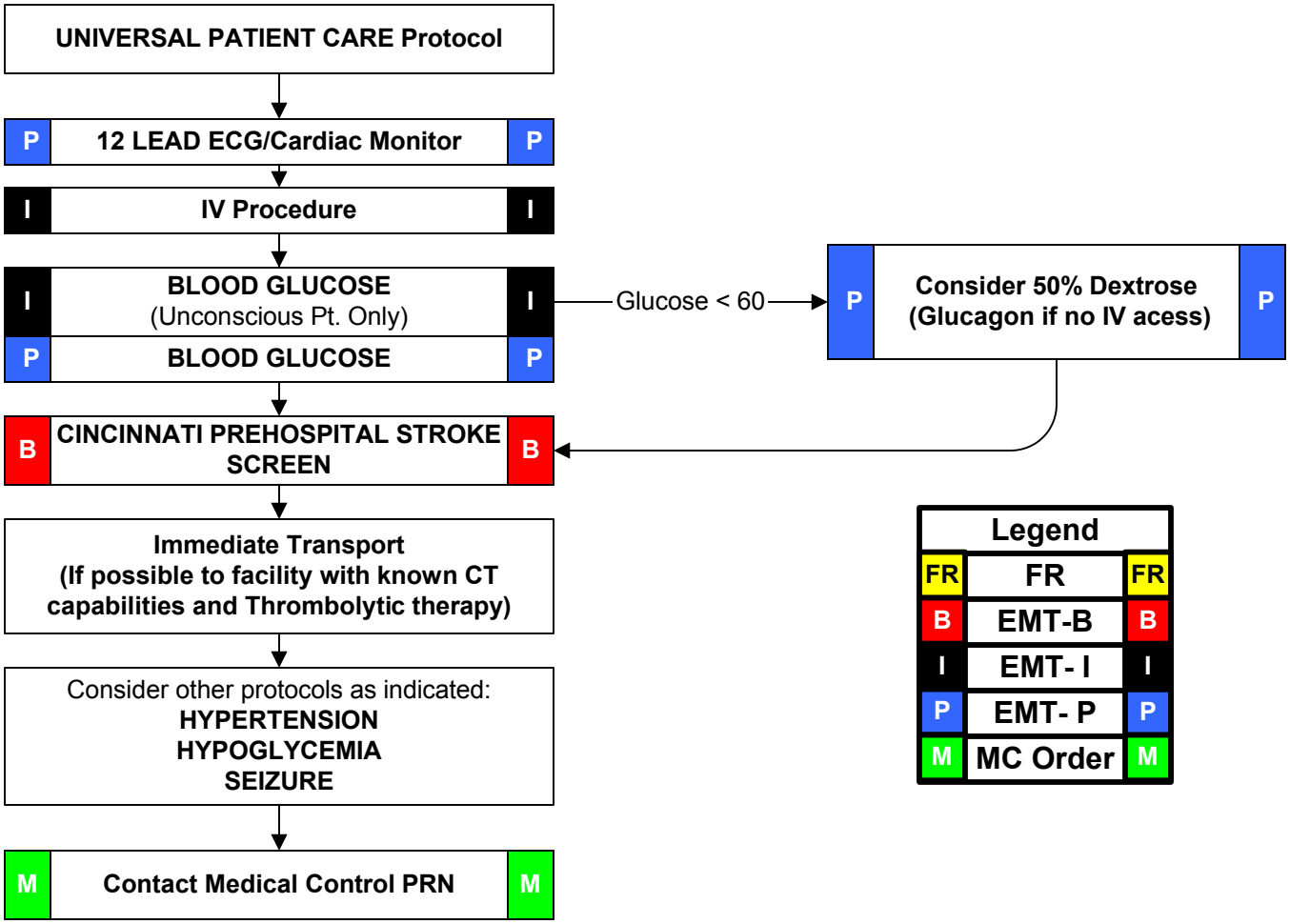


Pearls:

- **Exam: Mental Status, HEENT, Heart, Lungs, Extremities, Neuro**
- Status epilepticus is defined as two or more successive seizures without a period of consciousness or recovery. This is a true emergency requiring rapid airway control, treatment, and transport.
- **Grand mal seizures (generalized)** are associated with loss of consciousness, incontinence, and tongue trauma.
- **Focal seizures (petit mal)** effect only a part of the body and are not usually associated with a loss of consciousness
- **Jacksonian seizures** are seizures which start as a focal seizure and become generalized.
- Be prepared for airway problems and continued seizures.
- Assess possibility of trauma and substance abuse.
- Be prepared to assist ventilations, especially if diazepam is used.
- **For any seizure in a pregnant patient, follow the OB Emergencies Protocol**.
- Diazepam (Valium) is not effective when administered IM. It should be given IV. Dia-stat may be given rectally.

Suspected Stroke

History:	Signs and Symptoms:	Differential:
• Previous CVA, TIA's • Previous cardiac / vascular surgery • Associated diseases: diabetes, hypertension, CAD • Atrial fibrillation • Medications (blood thinners) • History of trauma • **SAMPLE**	• Altered mental status • Weakness / Paralysis • Blindness or other sensory loss • Aphasia / Dysarthria • Syncope • Vertigo / Dizzlness • Vomiting • Headache • Seizures • Respiratory pattern change • Hypertension / hypotension	• **TIA (Transient ischemic attack)** • **Seizure** • **Diabetes (Hypoglycemia or Hypogycemia)** • **Stroke-ThromboticEmbolic, Hemorrhagic** • **Tumor** • **Trauma** • **Electrolyte Abnormality** • **Hypoxia** • **Toxicologic** • **Psychiatric Disorder**



Pearls:

- **Exam: Mental Status, HEENT, Heart, Lungs, Abdomen, Extremities, Neuro**
- **Thrombolytic Screening Checklist should be completed for any suspected stroke patient. With a duration of symptoms of less than 3 hours, scene times and transport times should be minimized.**
- Onset of symptoms is defined as the last witnessed time the patient was symptom free (i.e. awakening with stroke symptoms would be defined as an onset time of the previous night when patient was symptom free).
- Elevated blood pressure is commonly present with stroke. Consider treatment if diastolic is > 120 mmHg.
- Be alert for airway problems (swallowing difficulty, vomiting).
- Hypoglycemia can present as a localized neurologic deficit, especially in the elderly.

Syncope

History:	Signs and Symptoms:	Differential:
• Cardiac history, stroke, seizure • Occult blood loss (GI, ectopic) • Females: LMP, vaginal bleeding • Fluid loss: nausea, vomiting, diarrhea • **SAMPLE**	• Loss of consciousness with recovery • Lightheadedness, dizziness • Palpitations, slow or rapid pulse • Pulse irregularity • Decreased blood pressure	• **Vasovagal** • **Orthostatic hypotension** • **Cardiac syncope** • **Micturation / Defecation syncope** • **Psychiatric** • **Stroke** • **Hypoglycemia** • **Seizure** • **Shock (see SHOCK Protocol)** • **Toxicologic (Alcohol)** • **Medication effect (hypertension)**

Legend		
FR	FR	FR
B	EMT-B	B
I	EMT- I	I
P	EMT- P	P
M	MC Order	M

UNIVERSAL PATIENT CARE Protocol

↓

Consider SPINAL IMMOBILIZATION Procedure

↓

P **12 LEAD ECG/Cardiac Monitor** P

↓

I **Orthostatic Vital Signs** I

↓

I **IV Procedure** I

↓

I **BLOOD GLUCOSE** (Unconscious Pt. Only) I

P **BLOOD GLUCOSE** P

< 60 → P **Consider 50% Dextrose (Glucagon if no IV)** P

↓

M **Contact Medical Control PRN** M

AT ANY TIME

If relevant signs / symptoms found go to appropriate protocol:

DYSRHYTHMIA
ALTERED MENTAL STATUS
HYPOTENSION

Pearls:
- **Exam: Mental Status, Skin, HEENT, Heart, Lungs, Abdomen, Back, Extremities, Neuro**
- Assess for signs and symptoms of trauma if associated or questionable fall with syncope.
- Consider dysrhythmias, GI bleed, ectopic pregnancy, and seizure as possible causes of syncope.
- These patients should be transported.
- More than 25% of geriatric syncope is cardiac dysrhythmia based.

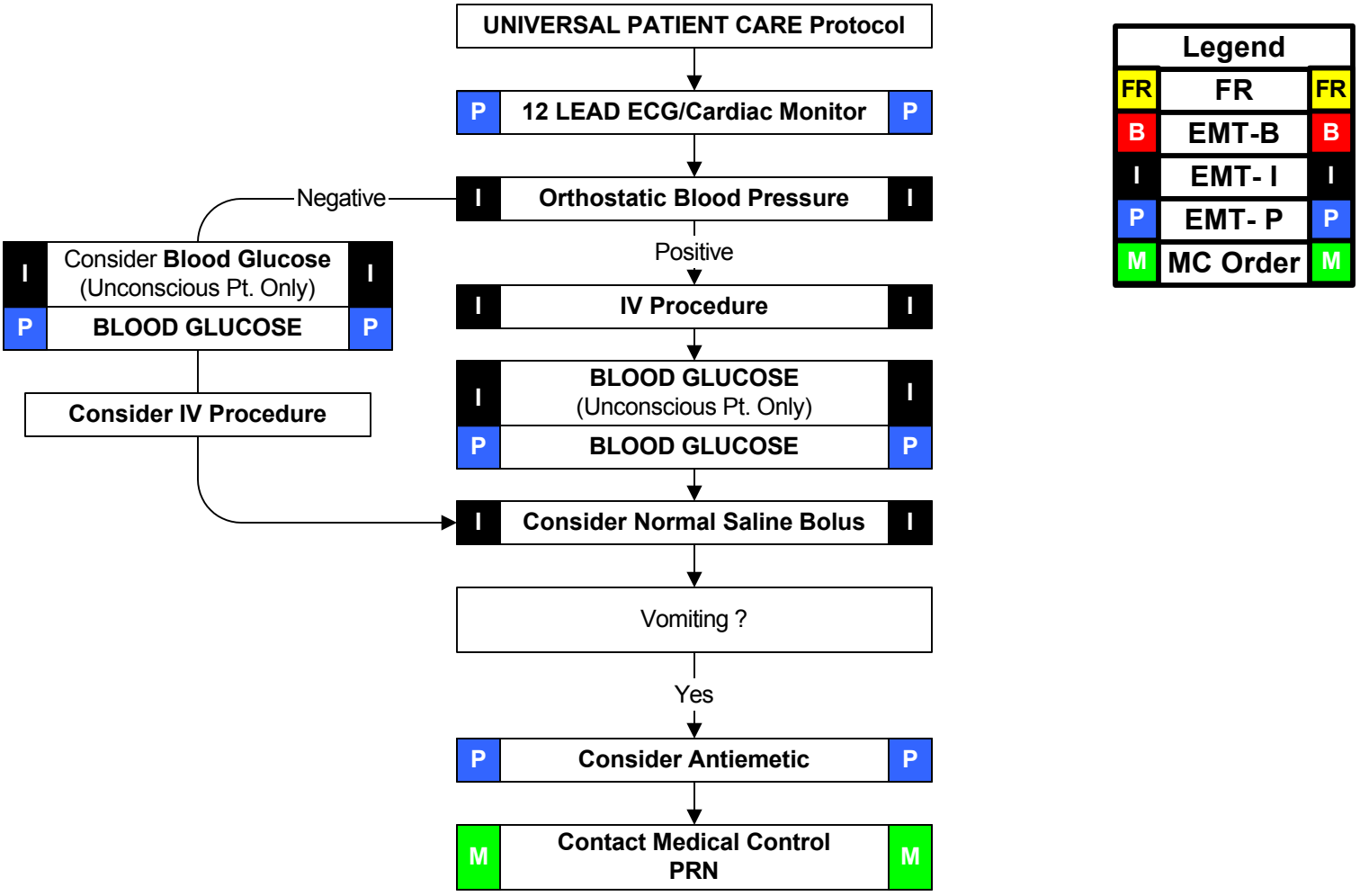
Vomiting and Diarrhea

History:
- Age
- Time of last meal
- Last bowel movement/ emesis
- Improvement or worsening with food or activity
- Duration of problem
- Other sick contacts
- Past surgical history
- Menstrual history (pregnancy)
- Travel history
- Bloody emesis / diarrhea
- **SAMPLE**

Signs and Symptoms:
- Pain
- Character of pain (constant, intermittent, sharp, dull, etc.)
- Distention
- Constipation
- Diarrhea
- Anorexia
- Radiation
- Poor skin turgor
- Pallor

Associated symptoms:
(Helpful to localize source)
Fever, headache, blurred vision, weakness, malaise, myalgias, cough, headache, dysuria, mental status changes, rash

Differential:
- **CNS (increased pressure, headache, stroke, CNS lesions, trauma or hemorrhage, vestibular)**
- **Myocardial infarction**
- **Drugs (NSAID's, antibiotics, narcotics, chemotherapy)**
- **GI or Renal disorders**
- **Diabetic ketoacidosis**
- **Gynecologic disease (ovarian cyst, PID)**
- **Infections (pneumonia, influenza)**
- **Electrolyte abnormalities**
- **Food or toxin induced**
- **Medication or Substance abuse**
- **Pregnancy**
- **Psychologic**



Pearls:
- **Exam: Mental Status, Skin, HEENT, Neck, Heart, Lungs, Abdomen, Back, Extremities, Neuro**
- Document the mental status and vital signs prior to administration of Antiemetics.
- Ask parent to quantify output on infants i.e., number of diapers used.

Cardiac

Asystole

History:	Signs and Symptoms:	Differential:
• **SAMPLE** • Events leading to arrest • End stage renal disease • Estimated downtime • Suspected hypothermia • Suspected overdose • DNR or Living Will	• Pulseless • Apneic • No electrical activity on ECG	• **Medical or Trauma** • **Hypoxia** • **Potassium (hypo / hyper)** • **Drug overdose** • **Acidosis** • **Hypothermia** • **Device (lead) error** • **Death**

UNIVERSAL PATIENT CARE Protocol

Criteria for Death / No Resuscitation

Yes → **Withhold resuscitation**

No

AIRWAY Protocol

CARDIAC MONITOR (Asystole must be confirmed in 2 leads) — I

12 LEAD/CM — P

IV Procedure — I

Consider Epinephrine — P

Consider Atropine — P

Criteria for Discontinuation — P

Yes → Stop resuscitation

No

Consider Bicarbonate — P

Contact Medical Control PRN — M

AT ANY TIME

Return of Spontaneous Circulation

Go to POST RESUSCITATION Protocol

Consider external trancutaneous pacing early, if qualified personnel are available to perform the procedure

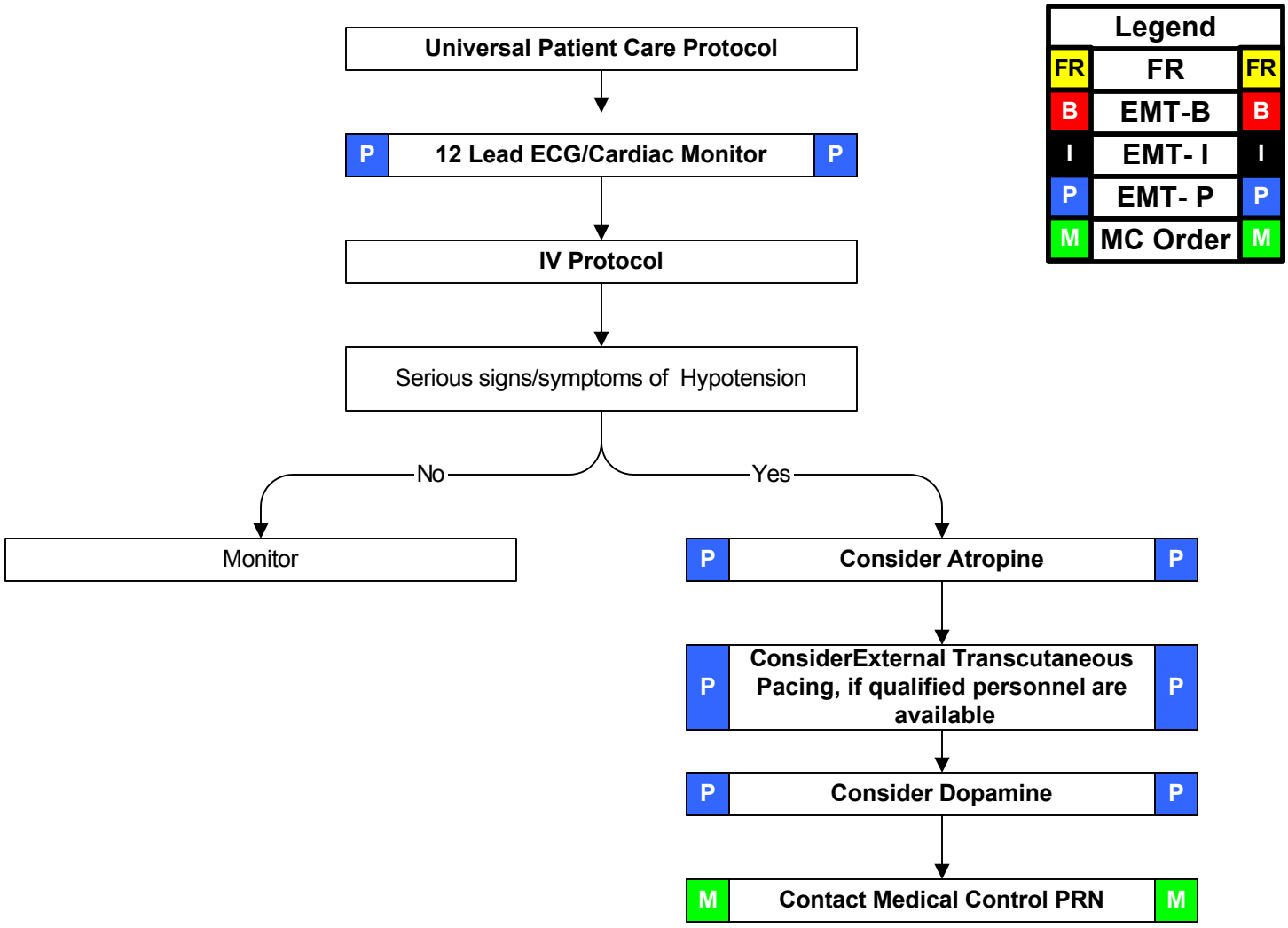
Legend	
FR	FR
B	EMT-B
I	EMT- I
P	EMT- P
M	MC Order

Pearls:
- **Exam: Mental Status**
- **Always confirm asystole in more than one lead.**
- Give medications such as Epinephrine and Atropine at 2 to 21/2 times the normal dose when administering by ET tube.

Bradycardia

History:	Signs and Symptoms:	Differential:

• Medications
  • Beta-Blockers
  • Calcium channel blockers
  • Clonidine
  • Digitalis
• Pacemaker
• **SAMPLE**
	• HR < 60/min
	• Systolic < 100
	• PVC's > 6 per minute
	• Diaphoresis
	• Capillary refill > 2
	• Chest pain
	• Respiratory distress
	• Hypotension or Shock
	• Altered mental status
	• Syncope
		• **Acute myocardial infarction**
		• **Hypoxia**
		• **Hypothermia**
		• **Sinus bradycardia**
		• **History of athletic lifestyle**
		• **Head injury (elevated ICP) or Stroke**
		• **Spinal cord lesion**
		• **Sick sinus syndrome**
		• **AV blocks (1°, 2°, or 3°)**

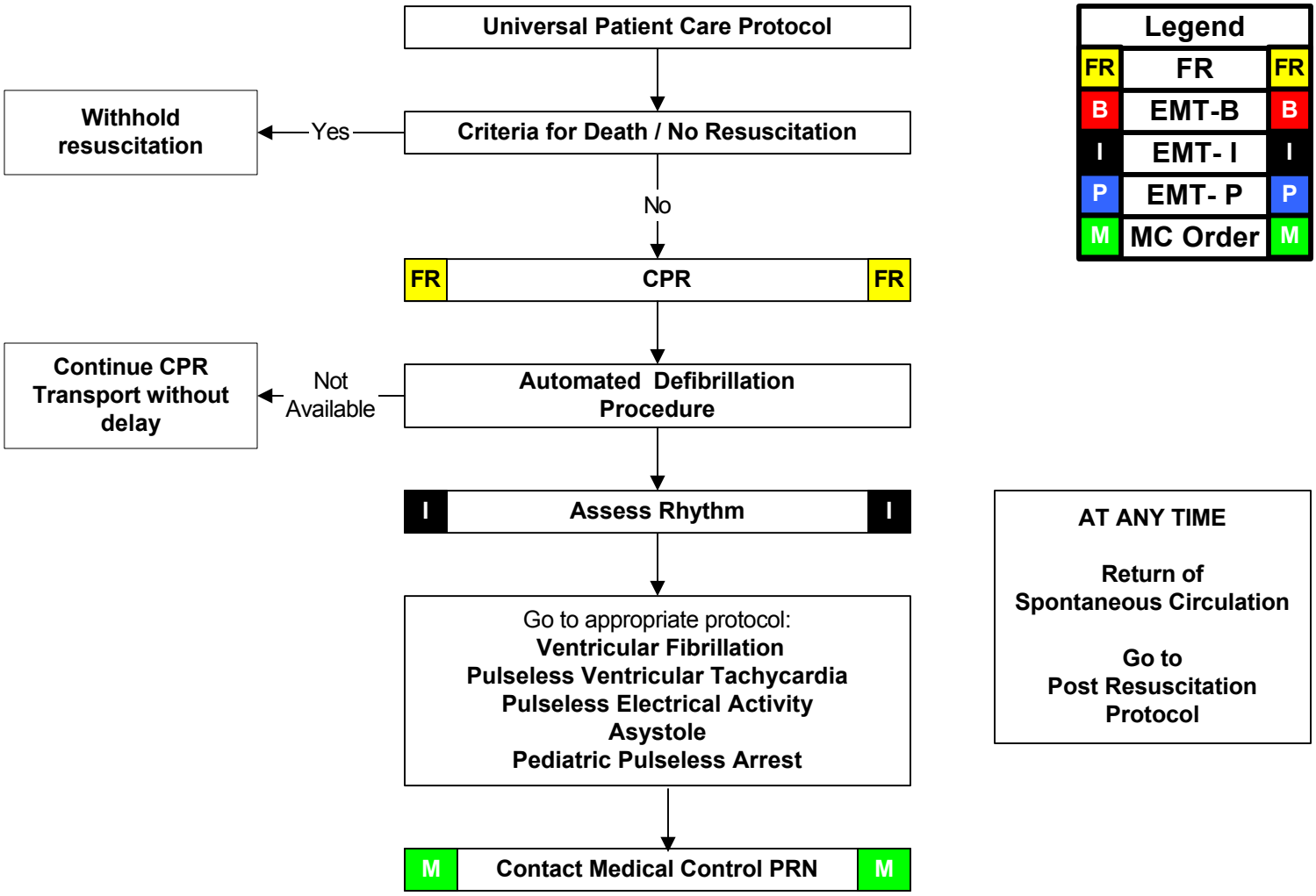


Pearls:

- **Exam: Mental Status, Neck, Heart, Lungs, Neuro**
- The use of lidocaine in heart block can worsen bradycardia and lead to asystole and death.
- Pharmacological treatment of Bradycardia is based upon the presence or absence of hypotension.
- **If hypotension exists, treat.**
- **If blood pressure is adequate, monitor only.**

Cardiac Arrest

History:	Signs and Symptoms:	Differential:
• Events leading to arrest • Estimated downtime • Existence of terminal illness • Signs of lividity, rigor mortis • DNR or Living Will • **SAMPLE**	• Unresponsive • Apneic • Pulseless	• **Medical vs Trauma** • **V. fib vs Pulseless V. tach** • **Asystole** • **Pulseless electrical activity (PEA)** **Special Considerations:** • **Children under eight** • **Pregnancy** • **Trauma victim**



Pearls:

- **Exam: Mental Status**
- Success is based on proper planning and execution. Procedures require space and patient access.
- If witnessed arrest - administer a precordial thump.
- Reassess airway frequently .
- **Maternal Arrest** - Treat mother per appropriate protocol with immediate notification to Medical Control and rapid transport.
- **AEDs are not recommended for use on children under eight years of age.**
- **Some AED's have manual override. Only authorized ALS providers may use this feature.**
- **There are different AED models. They do not all function the same way. Become familiar with the AED you will be using.**

Chest Pain
Suspected Cardiac Event

History:
- Age
- **Viagra**
- Past medical history (MI, Angina, Diabetes)
- Allergies (Morphine, Lidocaine)
- Recent physical exertion
- **SAMPLE**

Signs and Symptoms:
- Pale, diaphoresis
- Shortness of breath
- Nausea, vomiting, dizziness
- Chest Pain (pain, pressure, aching, vice-like tightness)
  - **O**nset
  - **P**alliation/**P**rovocation
  - **Q**uality (crampy, constant, sharp, dull, etc)
  - **R**egion/**R**adiation/**R**eferred (substernal, epigastric, arm, jaw, neck, shoulder)
  - **S**everity (1-10)
  - **T**ime (duration/repitition)

Differential:
- **Trauma vs. Medical**
- **Angina vs. Myocardial infarction**
- **Pericarditis**
- **Pulmonary embolism**
- **Asthma / COPD**
- **Pneumothorax**
- **Aortic dissection or aneurysm**
- **GE reflux or Hiatal hernia**
- **Esophageal spasm**
- **Chest wall injury or pain**
- **Pleural pain**

UNIVERSAL PATIENT CARE PROTOCOL

P	**12 LEAD ECG/CM**	P
P	**Consider Aspirin**	P
I	**IV Protocol**	I
P	**Consider Nitroglycerin**	P
B	**May assist patient with Nitroglycerin**	B
B	**Complete Thrombolytic Checklist**	B
	Continued pain?	
P	**Consider Morphine** and / or **Nitrogycerin**	P
M	**Contact Medical Control**	M

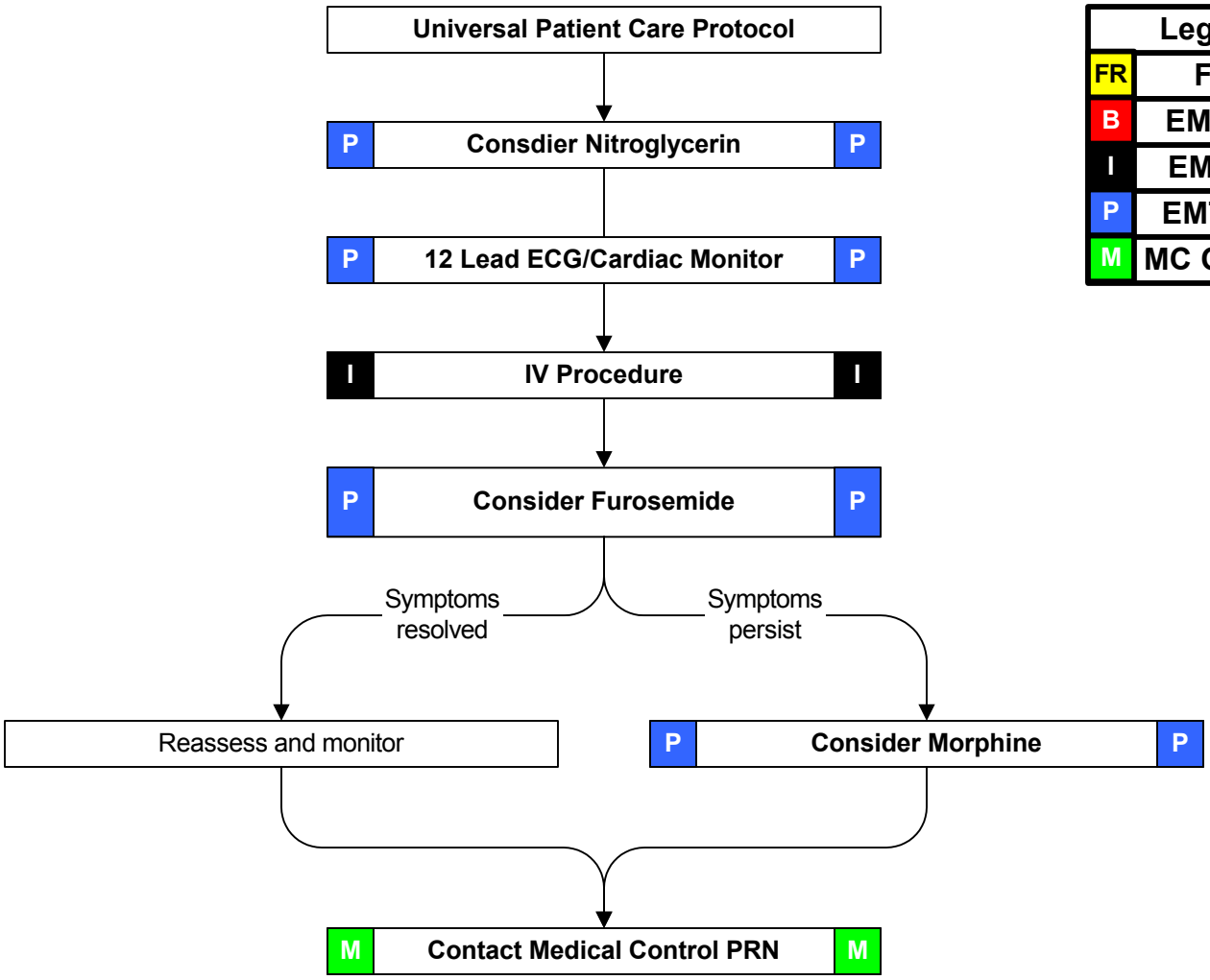
→ **Hypotension / Dysrhythmias**
Treat per Protocol

Legend		
FR	FR	FR
B	EMT-B	B
I	EMT- I	I
P	EMT- P	P
M	MC Order	M

Pearls:
- **Exam: Mental Status, Skin, Neck, Lung, Heart, Abdomen, Back, Extremities, Neuro**
- **Avoid Nitroglycerin in any patient who has used Viagra in the past 24 hours due to potential severe hypotension.**
- If patient has taken nitroglycerin without relief, consider potency of the medication.
- If positive ECG changes, establish a second IV while en route to the hospital.
- Monitor for hypotension after administration of nitroglycerin and morphine.
- Nitroglycerin and Morphine may be repeated per dosing guidelines in Drug List.
- Diabetics and geriatric patients often have atypical pain, or only generalized complaints.

CHF/Pulmonary Edema

History:	Signs/Symptoms:	Differential:
• Past History of Congestive heart failure, MI. • Medications (digoxin, lasix) • Dialysis • **Viagra** • **SAMPLE**	• Respiratory distress, bilateral rales • Apprehension, orthopnea • Jugular vein distention • Pink, frothy sputum • Peripheral edema, diaphoresis • Hypotension, shock • Chest pain	• **Myocardial infarction** • **Congestive heart failure** • **Asthma** • **Anaphylaxis** • **Aspiration** • **COPD** • **Pleural effusion** • **Pneumonia** • **Pulmonary embolus** • **Pericardial tamponade**



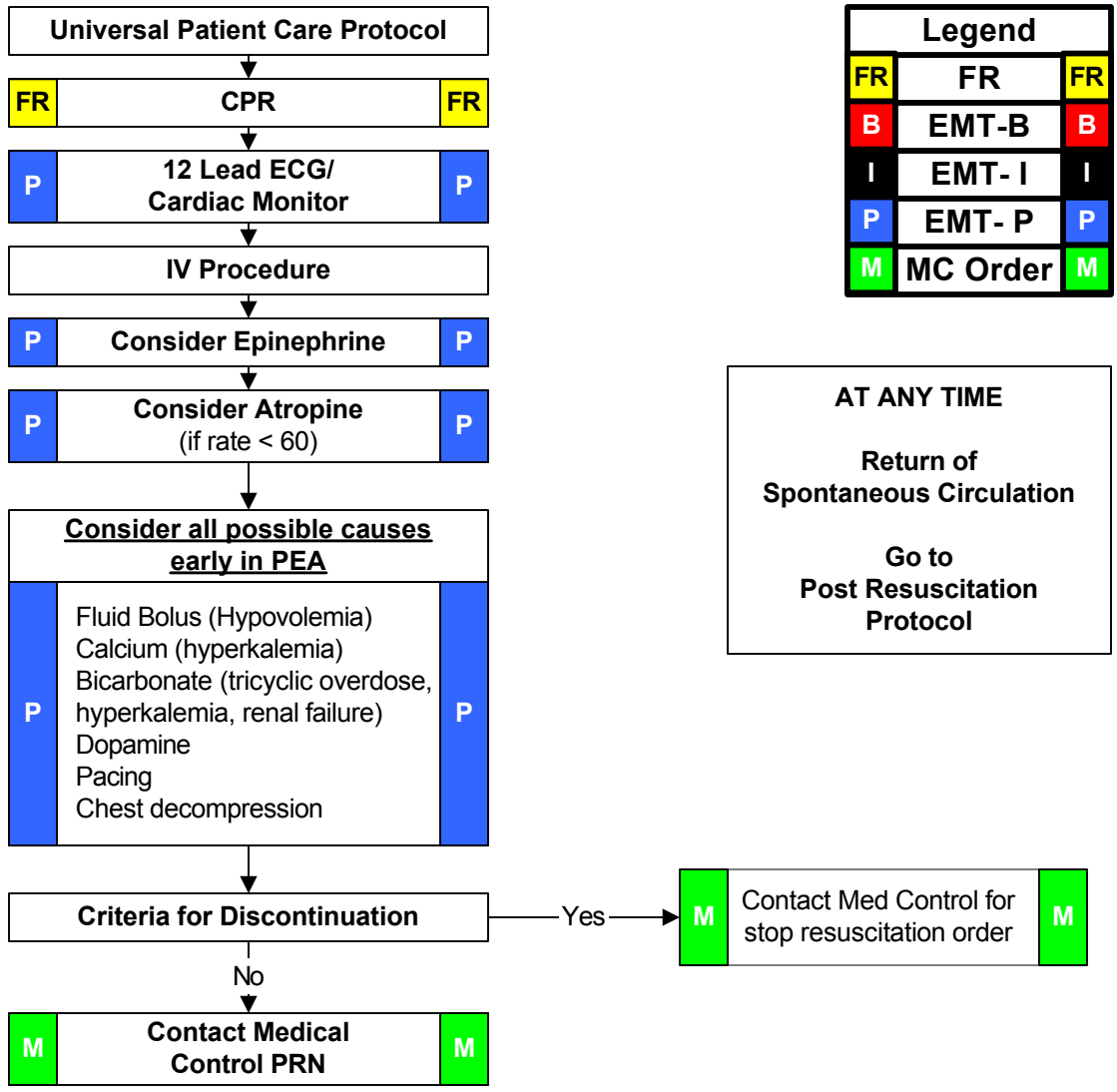
Pearls:

- **Exam: Mental Status, Skin, Neck, Lung, Heart, Abdomen, Back, Extremities, Neuro**
- **Avoid Nitroglycerin in any patient who's used Viagra in the past 24 hours due to possible severe hypotension.**
- If patient has taken nitroglycerin without relief, consider potency of the medication.
- Morphine may be repeated per drug list.
- Contraindications to Morphine include severe COPD and respiratory distress. Monitor the patient closely.
- Consider myocardial infarction in all these patients.
- Diabetics and geriatric patients often have atypical pain, or only generalized complaints.
- Careful monitoring of level of consciousness, BP, and respiratory status with above interventions is essential.
- Allow the patient to be in their position of comfort to maximize their breathing effort.

Pulseless Electrical Activity (PEA)

History:	Signs and Symptoms:	Differential:

• Events leading to arrest
• End stage renal disease
• Estimated downtime
• Suspected hypothermia
• Suspected overdose
  • Tricyclics
  • Digitalis
  • Beta blockers
  • Calcium channel blockers
• DNR or living will
• **SAMPLE**
	• Pulseless
	• Apneic
	• Electrical activity on ECG
		• **Hypovolemia (Trauma, AAA, other)**
		• **Cardiac tamponade**
		• **Hypothermia**
		• **Drug overdose (Tricyclics, Digitalis, Beta blockers, Calcium channel blockers)**
		• **Massive myocardial infarction**
		• **Hypoxia**
		• **Tension pneumothorax**
		• **Pulmonary embolus**
		• **Acidosis**
		• **Hyperkalemia/Hypokalemia**

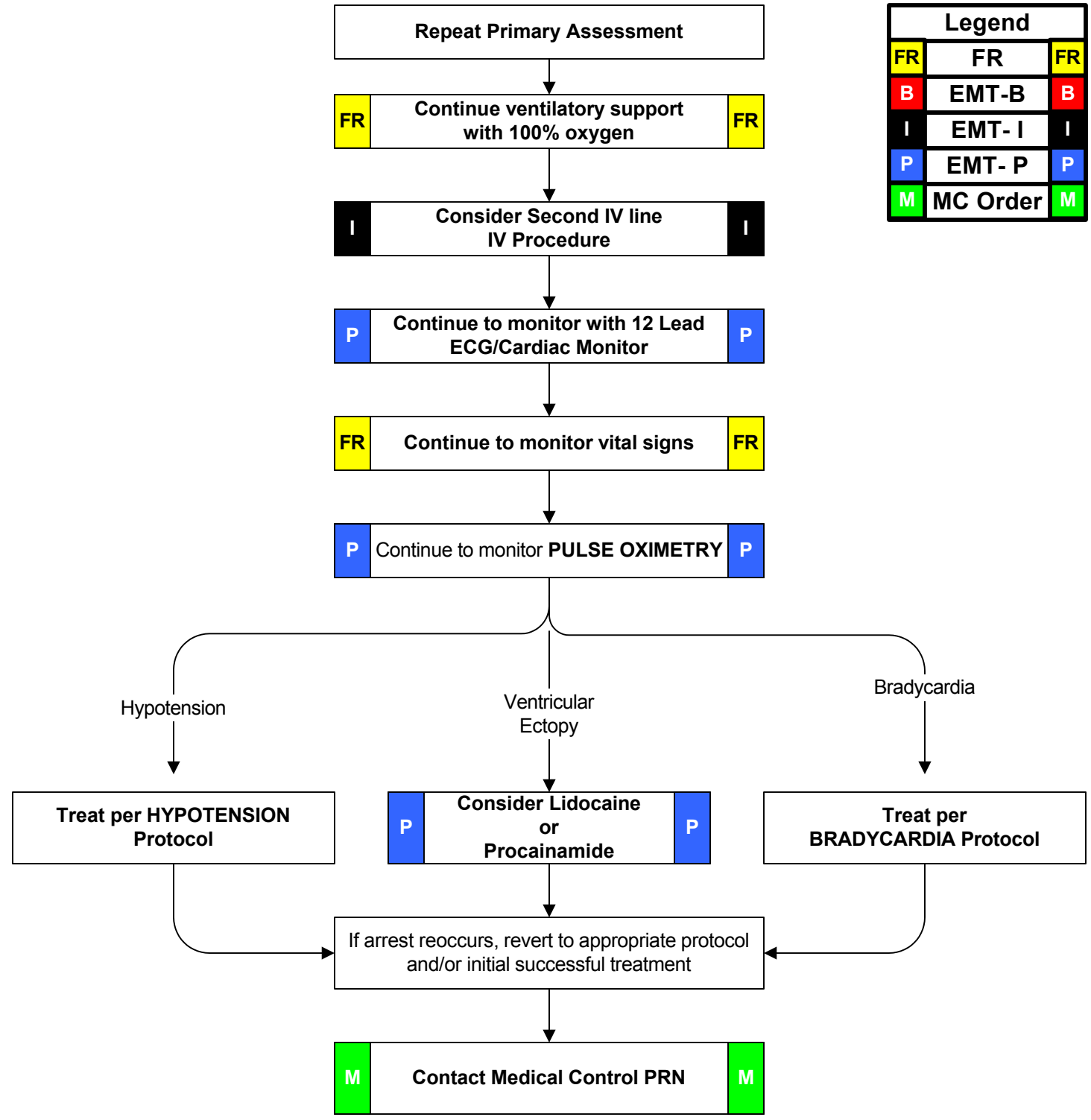


Pearls:

- **Exam: Mental Status**
- Consider each possible cause listed in the differential: Survival is based on identifying and correcting the cause!
- Discussion with Medical Control can be a valuable tool in developing a differential diagnosis and identifying possible treatment options.

Post Resuscitation

History:	Signs/Symptoms:	Differential:
• Respiratory arrest • Cardiac arrest • **SAMPLE**	• Return of pulse	• **Continue to address specific differentials associated with the original dysrhythmia**



Supraventricular Tachycardia

History:	Signs and Symptoms:	Differential:
• Medications (Aminophylline, Diet pills, Thyroid supplements, Decongestants, Digoxin) • Diet (caffeine, chocolate) • Drugs (nicotine, cocaine) • History of palpitations / heart racing • Syncope / near syncope • **SAMPLE**	• HR > 150/Min • QRS < .12 Sec • Dizziness, CP, SOB • Altered level of consciousness • Decreased BP • Signs and symptoms of shock, CHF, pulmonary edema • Potential presenting rhythm Sinus tachycardia Atrial fibrillation / flutter Multifocal atrial tachycardia	• **Heart disease (WPW, Valvular)** • **Sick sinus syndrome** • **Myocardial infarction** • **Electrolyte imbalance** • **Exertion, Pain, Emotional stress** • **Fever** • **Hypoxia** • **Hypovolemia or Anemia** • **Drug effect / Overdose (see HX)** • **Hyperthyroidism** • **Pulmonary embolus**

UNIVERSAL PATIENT CARE

P **12 LEAD ECG/Continuous CM** P

P **Continuous PULSE OXIMETRY** If available P

I **IV Procedure** I

Legend	
FR	FR
B	EMT-B
I	EMT- I
P	EMT- P
M	MC Order

Stable

P May attempt **Valsalva's maneuver** and / or **Carotid Massage** initially and after each drug administration if indicated. P

P **Consider Adenosine** P

M **Contact Medical Control PRN** M

Unstable

M **Contact Medical Control PRN** M

Pre-arrest
(No palpable BP, Altered mental status)

P For sedation **Consider Diazepam** P

P **Cardioversion 50 - 100 joules** P

P **Repeat cardioversion: 200, 300, 360, joules** P

If rhythm changes **Go to Appropriate Protocol**

M **Contact Medical Control PRN** M

Pearls:
- **Exam: Mental Status, Skin, Neck, Lung, Heart, Abdomen, Back, Extremities, Neuro**
- Adenosine may not be effective in identifiable atrial flutter/fibrillation, yet is not harmful.
- Continuous pulse oximetry is required for all SVT Patients.
- Document all rhythm changes with monitor strips and obtain monitor strips with each therapeutic intervention.

Ventricular Fibrillation
Pulseless Vent. Tachycardia

History:	Signs and Symptoms:	Differential:
• Estimated down time • Events leading to arrest • Renal failure / dialysis • DNR or living will • **SAMPLE**	• Unresponsive, apneic, pulseless • Ventricular fibrillation or ventricular tachycardia on ECG	• **Asystole** • **Artifact / Device failure** • **Cardiac** • **Endocrine / Metabolic** • **Drugs** • **Pulmonary**

UNIVERSAL PATIENT CARE Protocol
CARDIAC ARREST Protocol

- I — **12 LEAD ECG/CM** — I
- I — **IV Procedure**
  Stacked Shocks — I
- P — **Epinephrine**
  repeat every 3-5 minutes — P
- I — **Defibrillate** — I
- P — **Consider Lidocaine** — P
- I — **Defibrillate** — I
- Criteria for Discontinuation ? — Yes → **See DISCONTINUATION Policy**
- No
- P — **Consider Procainamide** — P
- I — **Defibrillate** — I
- M — **Contact Medical Control PRN** — M

Legend		
FR	FR	FR
B	EMT-B	B
I	EMT- I	I
P	EMT- P	P
M	MC Order	M

AT ANY TIME

Return of Spontaneous Circulation

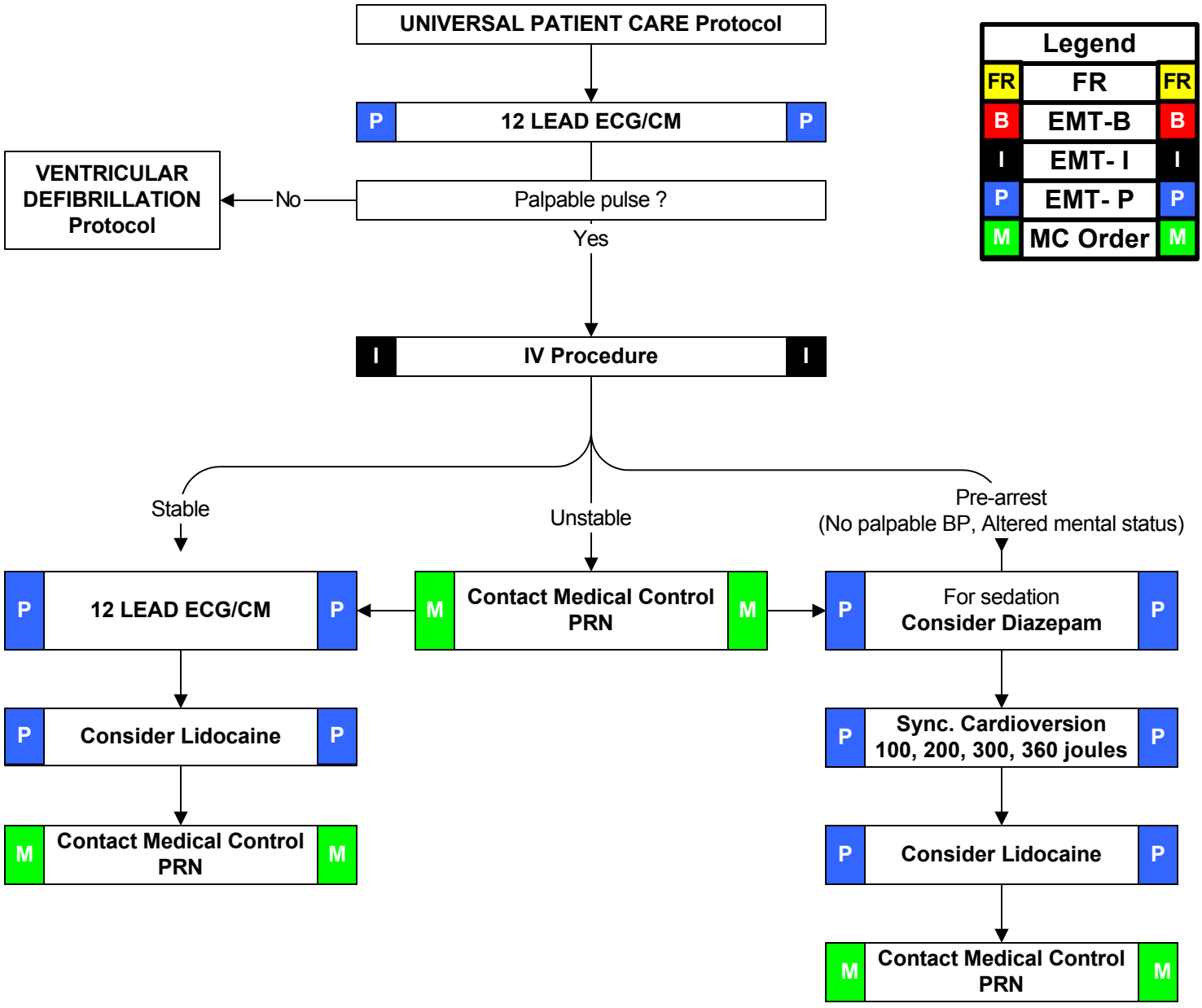
Go to POST RESUSCITATION Protocol

Pearls:

- **Exam: Mental Status**
- Pattern should be drug-shock, drug-shock, etc. (repeat drugs as per drug list).
- Reassess and document endotracheal tube placement and ET CO2 frequently, after every move, and at discharge.
- If defibrillation is successful and patient rearrests, return to previously successful energy level.
- Med Control may order Calcium if hyperkalemia is suspected (renal failure, dialysis); Sodium Bicarbonate if down time greater than 10 minutes.
- Defibrillation takes precedence over all treatment once the defibrillator is available.
- If Defibrillation is underway by First Responders (FR), FR defibrillation should continue until 6 defibrillations are accomplished or patient is resuscitated.
- Polymorphic V-Tach (Torsades de Pointes) may benefit from administration of magnesium sulfate.

Ventricular Tachycardia

History:	Signs and Symptoms:	Differential:
• Syncope / near syncope • Palpitations • Pacemaker • Allergies: lidocaine / novacaine • **SAMPLE**	• Ventricular tachycardia on ECG (Runs or sustained) • Conscious, rapid pulse • Chest pain, shortness of breath • Dizziness • Rate usually 150 - 180 bpm for sustained V-Tach	• **Artifact / Device failure** • **Cardiac** • **Endocrine / Metabolic** • **Drugs** • **Pulmonary**



Pearls:

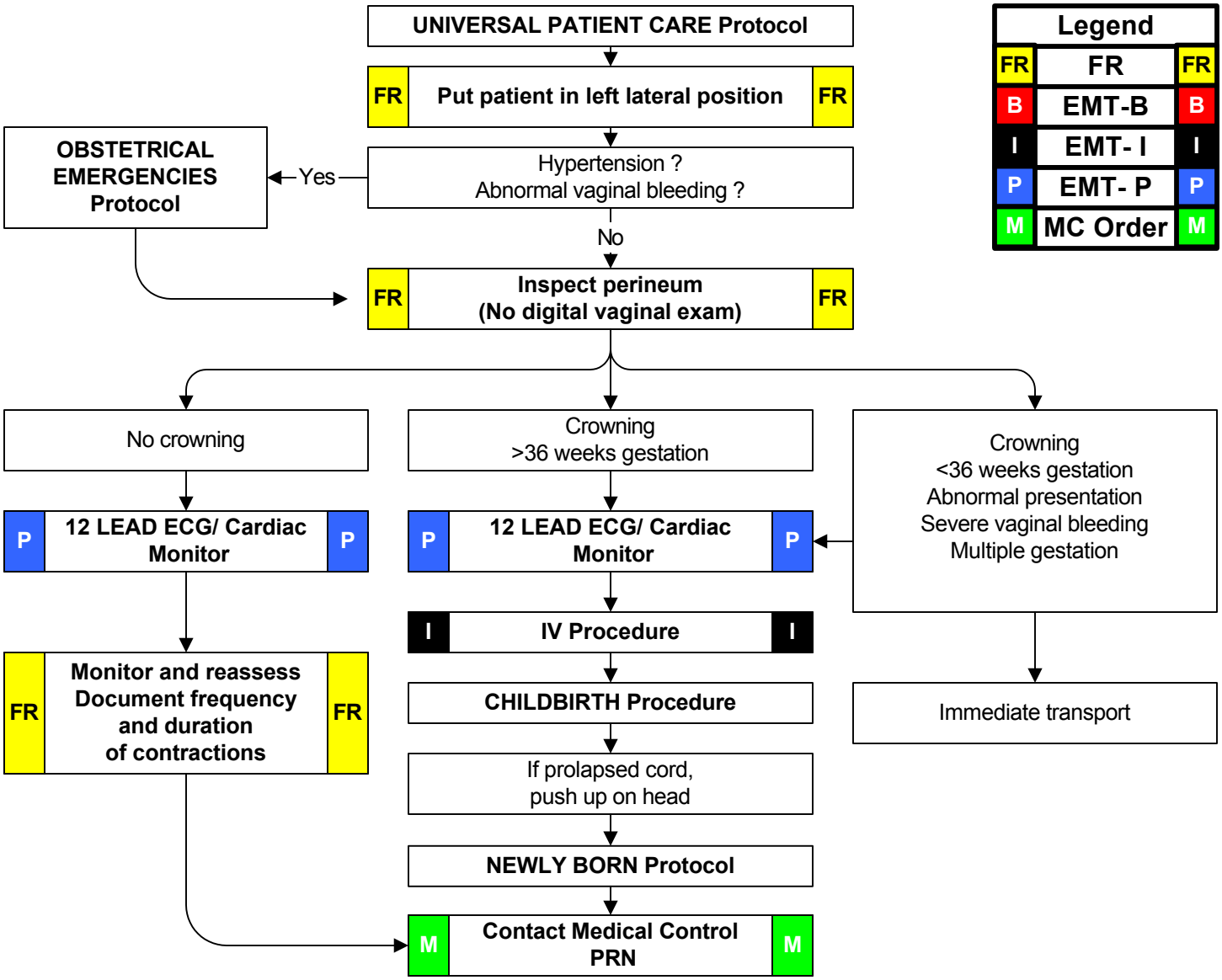
- **Exam: Mental Status, Skin, Neck, Lung, Heart, Abdomen, Back, Extremities, Neuro**
- For witnessed / monitored ventricular tachycardia, try having patient cough or deliver a precordial thump.
- Polymorphic V-Tach (Torsades de Pointes) may benefit from the administration of magnesium sulfate.

OB/Peds

OB/Peds

Childbirth / Labor

History:	Signs and Symptoms:	Differential:
• Gravida/para/due date • Time contractions started / how often • Rupture of membranes • Time / amount of any vaginal bleeding • Sensation of fetal activity • **SAMPLE**	• Spasmotic pain • Vaginal discharge or bleeding • Crowning or urge to push • Meconium	• **Abnormal presentation** **Buttock** **Foot** **Hand** • **Prolapsed cord** • **Placenta previa** • **Abruptio placenta**

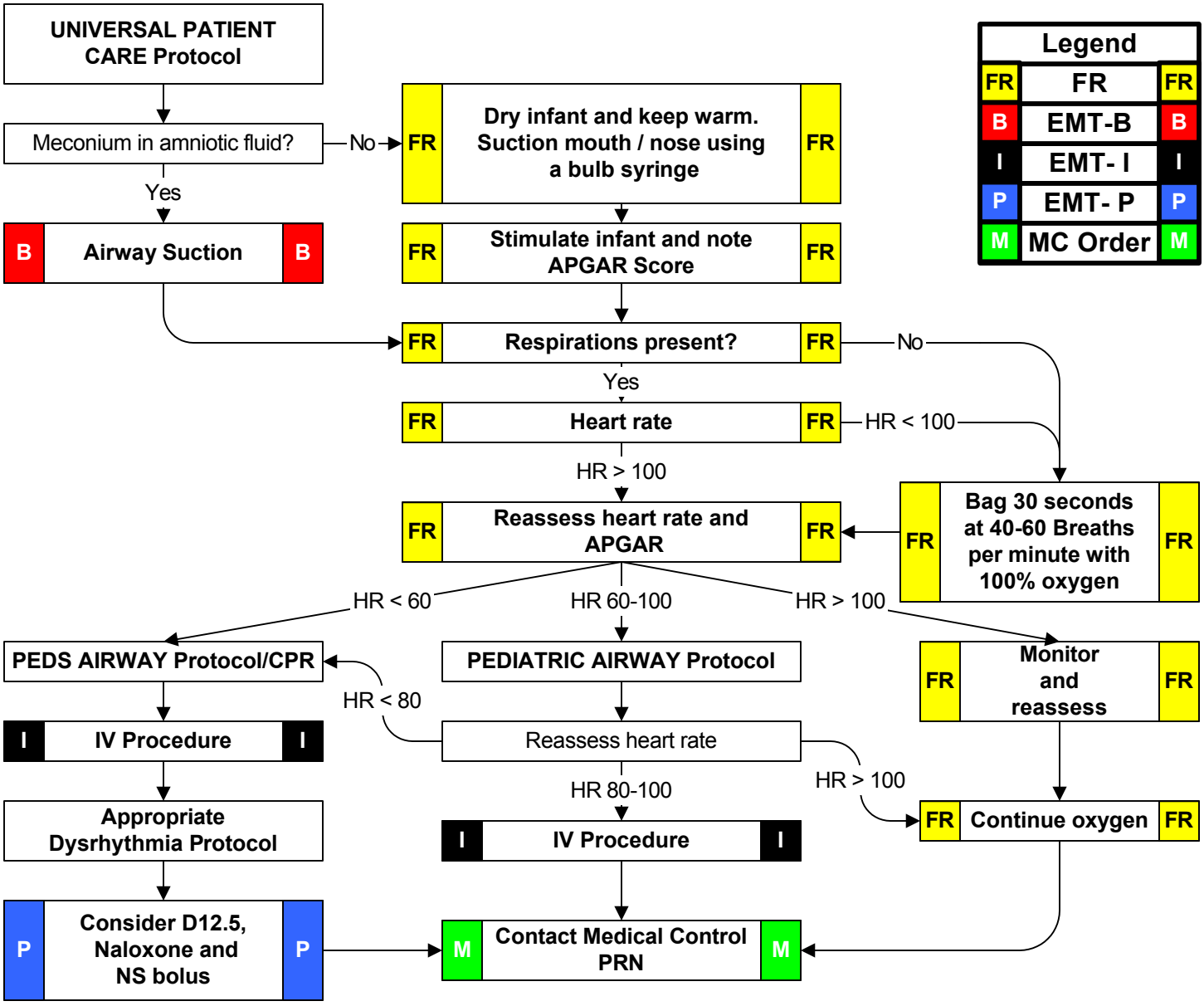


Pearls:

- **Exam (of Mother): Mental Status, Heart, Lungs, Abdomen, Neuro**
- Document all times (delivery, contraction frequency, and length).
- If maternal seizures occur, refer to the OBSTETRICAL EMERGENCIES PROTOCOL.
- After delivery, massaging the uterus (lower abdomen) will promote uterine contraction and help to control post-partum bleeding.
- Some perineal bleeding is normal with any childbirth. Large quantities of blood or free bleeding are abnormal.

Newly Born

History:	Signs and Symptoms:	Differential:
• Due date and gestational age • Multiple gestation (twins etc.) • Meconium • Delivery difficulties • Congenital disease • Medications (maternal) • Maternal risk factors substance abuse smoking	• Respiratory distress • Peripheral cyanosis or mottling (normal) • Central cyanosis (abnormal) • Altered level of responsiveness • Bradycardia	• **Airway failure** **Secretions** **Respiratory drive** • **Infection** • **Maternal medication effect** • **Hypovolemia** • **Hypoglycemia** • **Congenital heart disease** • **Hypothermia**

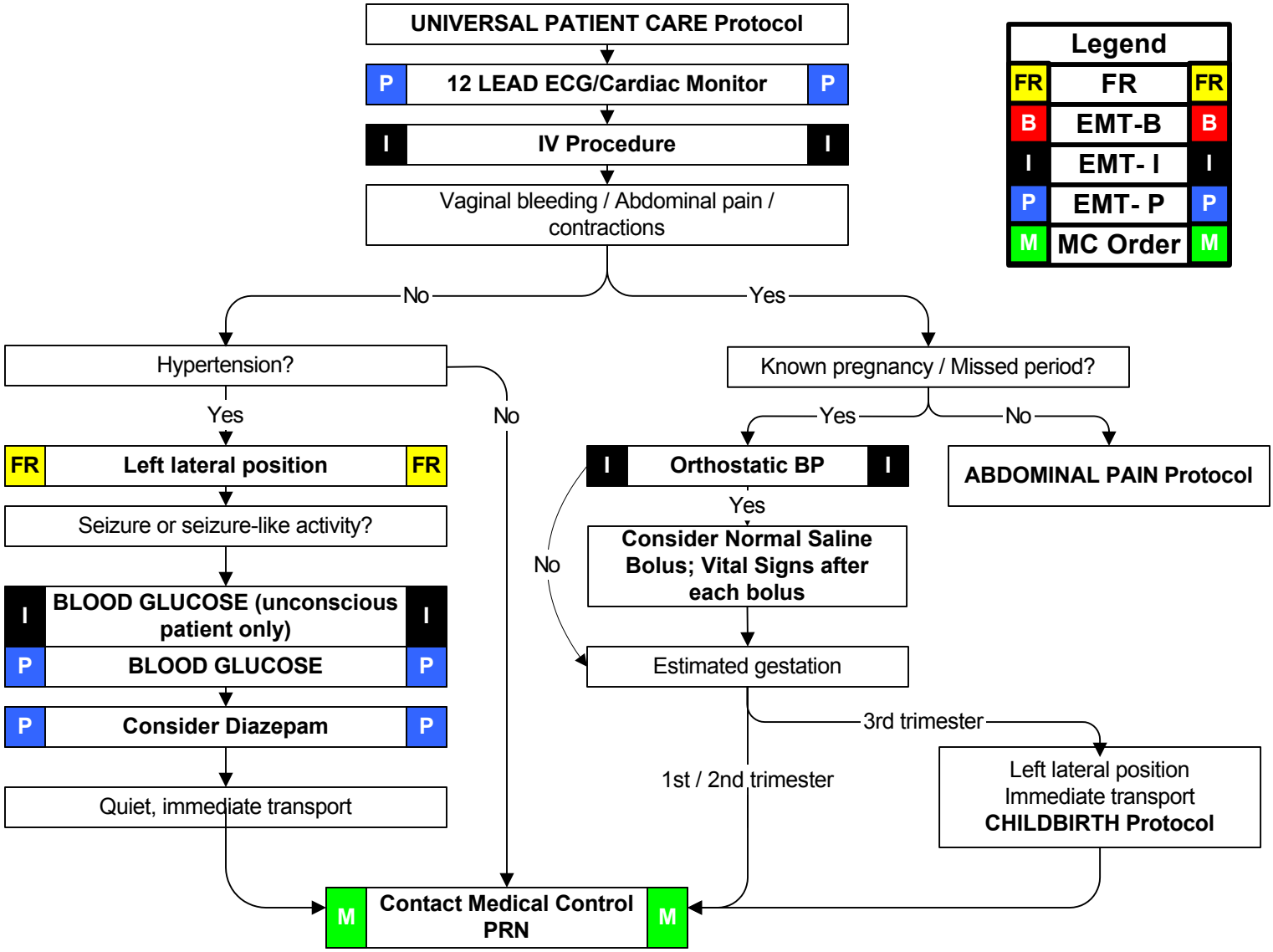


Pearls:

- **Exam: Mental Status, Skin, HEENT, Neck, Chest, Heart, Abdomen, Extremities, Neuro**
- Maternal sedation or narcotics will sedate infant (Naloxone effective).
- Consider hypoglycemia in infant.
- Document 1 and 5 minute APGAR scores (see Appendix)

Obstetrical Emergency

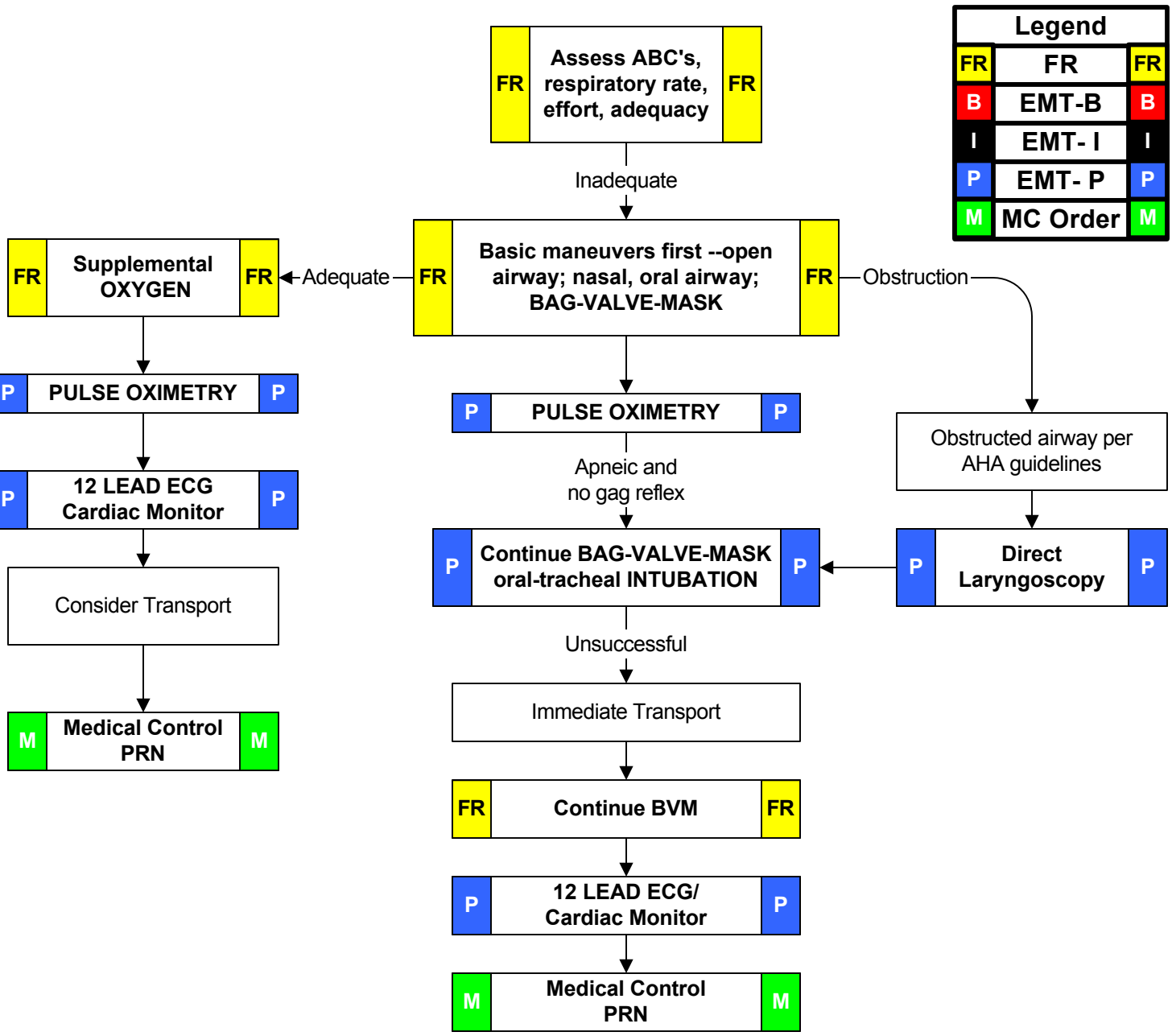
History:	Signs and Symptoms:	Differential:
• Hypertension meds • Prenatal care • LMP / Gestational age • Prior pregnancies / births • Gravida / Para • **SAMPLE**	• Vaginal bleeding / discharge / muscous plug/ruptured BOW • Abdominal pain • Seizures • Hypertension • Severe headache • Visual changes • Edema of hands and face	• **Pre-eclampsia / Eclampsia** • **Placenta previa** • **Placenta abruptio** • **Spontaneous abortion** • **Gestational Diabetes**



Pearls:

- **Exam: Mental Status, Abdomen, Heart, Lungs, Neuro**
- Severe headache, vision changes, or RUQ pain may indicate pre-eclampsia.
- In the setting of pregnancy, hypertension is defined as a BP greater than 140 systolic or greater than 90 diastolic, or a relative increase of 30 systolic and 20 diastolic from the patient's normal (pre-pregnancy) blood pressure.
- Maintain patient in a left lateral position to minimize risk of supine hypotensive syndrome.
- Ask patient to quantify bleeding - number of pads used per hour.
- Any pregnant patient involved in a MVC should be seen immediately by a physician for evaluation and fetal monitoring.

Airway, Pediatric

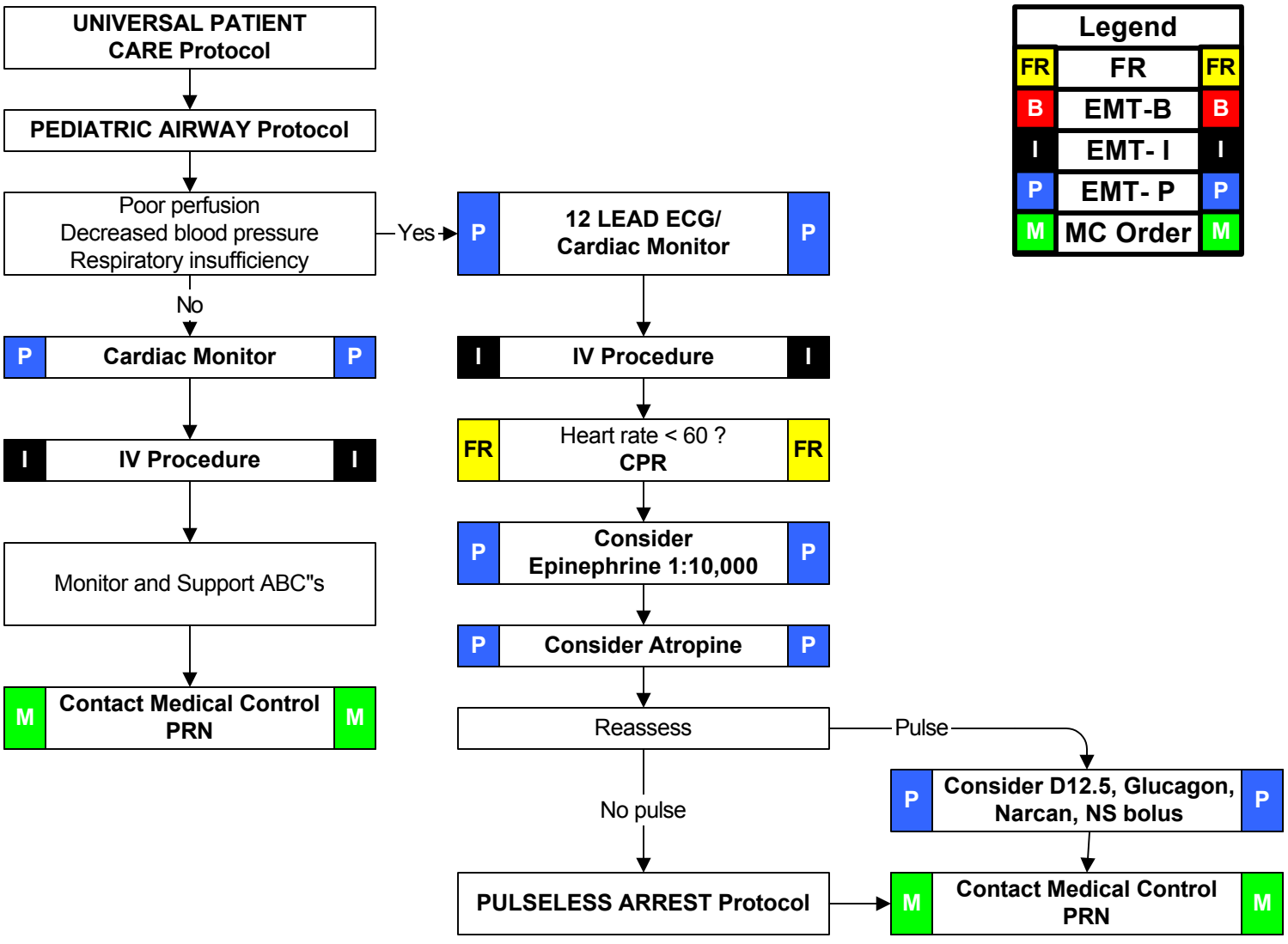


Pearls:

- **For this protocol, pediatric is defined as less than 12 years.**
- **Capnometry, Esophageal Bulb or End-tidal CO2 detector is mandatory with all methods of intubation. Document results.**
- **Limit intubation attempts to 3 per patient.** *Due to high incidence of tube displacement with pediatric patients, BVM is always a safe choice for oxygenation.*
- If unable to intubate, continue BVM ventilations, transport rapidly, and **notify receiving hospital <u>early</u>**.
- Maintain C-spine immobilization for patients with suspected spinal injury.
- Do not assume hyperventilation is psychogenic -- use oxygen, not a paper bag.
- Sellick's maneuver should be used to assist with difficult intubations.
- Nasogastric tube placement should be considered in all intubated patients.
- Continuous pulse oximetry should be utilized in all patients with an inadequate respiratory function.
- Consider c-collar to maintain ETT placement for all intubated patients (REMOVE COLLAR upon patient TRANSFER).

Pediatric Bradycardia

History:	Signs and Symptoms:	Differential:
• Foreign body exposure • Respiratory distress or arrest • Apnea • Possible toxic or poison exposure • Congenital disease • Medication (maternal or infant) • **SAMPLE**	• Decreased heart rate • Delayed capillary refill or cyanosis • Mottled, cool skin • Hypotension or arrest • Altered level of consciousness	• **Respiratory effort** • **Respiratory obstruction** **Foreign body / Secretions** **Croup / Epiglotitis** • **Hypovolemia** • **Hypothermia** • **Infection / Sepsis** • **Medication or Toxin** • **Hypoglycemia** • **Trauma**

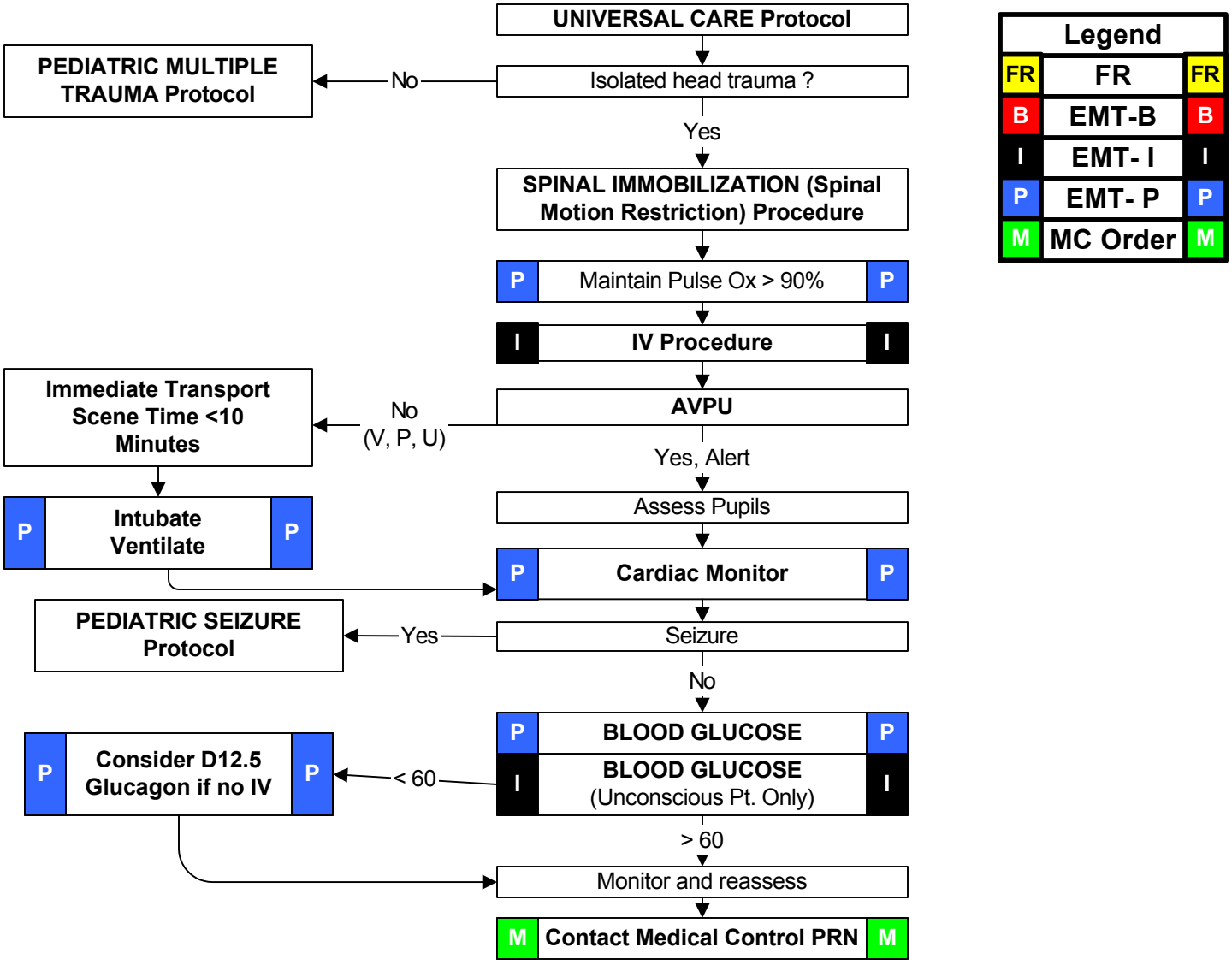


Pearls:

- **Exam: Mental Status, HEENT, Skin, Heart, Lungs, Abdomen, Back, Extremities, Neuro**
- Infant = < 1year of age
- Most maternal medications pass through breast milk to the infant.
- The majority of pediatric arrests are due to airway problems.
- Hypoglycemia, severe dehydration and narcotic effects may produce bradycardia.
- Pediatric patients requiring external transcutaneous pacing require the use of pads appropriate for pediatric patients per the manufacturers guidelines.

Pediatric Head Trauma

History:	Signs and Symptoms:	Differential:
• Time of injury • Mechanism (blunt vs. penetrating) • Loss of consciousness • Bleeding • Evidence for multi-trauma • **SAMPLE**	• Pain, swelling, bleeding • Altered mental status • Lethargy or unconscious • Respiratory distress / failure • Vomiting (Projectile?) • Major traumatic mechanism of injury • Seizure	• **Skull fracture** • **Brain injury (Concussion, Contusion, Hemorrhage or Laceration)** • **Epidural, subdural hematoma** • **Subarachnoid hemorrhage** • **Spinal injury** • **Abuse**

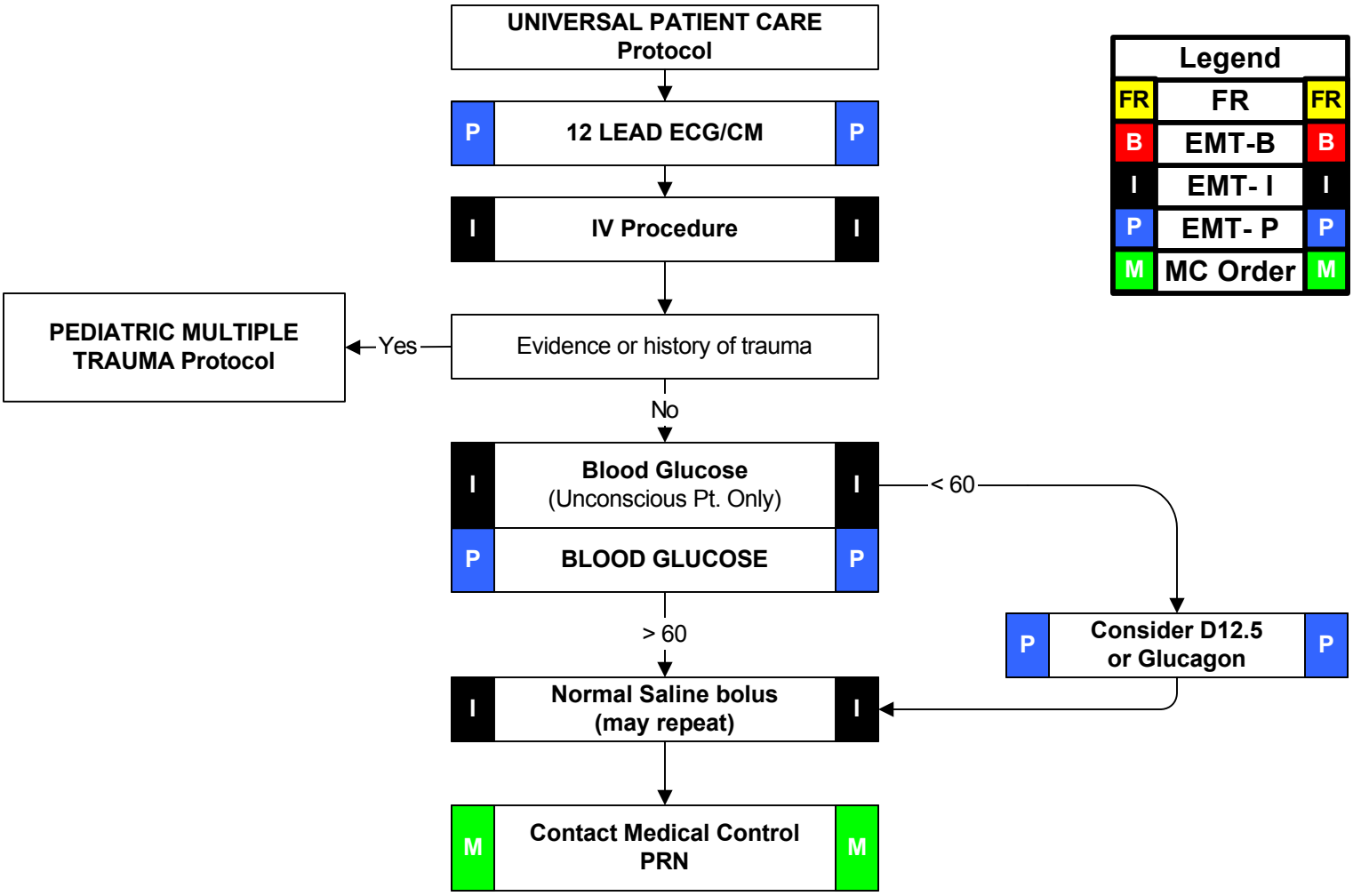


Pearls:

- **Exam: Mental Status, HEENT, Heart, Lungs, Abdomen, Extremities, Back, Neuro**
- If GCS < 14 and RTS <11, consider air / rapid transport.
- Hyperventilate the patient only if evidence of herniation (blown pupil, decorticate / decerebrate posturing, bradycardia). If hyperventilation is needed (35/minute for infants <1 year and 30 /minute for children >1 year). Normal ventilation rate for infants <1 year 25/minute, and children > 1 year 20/minute).
- Increased intracranial pressure (ICP) may cause hypertension and bradycardia (Cushing's Response).
- The most important item to monitor and document is a change in the level of consciousness.
- Concussions are periods of confusion or LOC associated with trauma which may have resolved by the time EMS arrives. Any prolonged confusion or mental status abnormality which does not return to normal within 15 minutes or any documented loss of consciousness should be evaluated by a physician ASAP.

Pediatric Hypotension Shock (Non-Trauma)

History:	Signs and Symptoms:	Differential:
• Blood loss • Fluid loss Vomiting Diarrhea Fever # Diapers (infants) • Infection • Intake • **SAMPLE**	• Restlessness, confusion, weakness • Dizziness • Increased HR, rapid pulse • Decreased BP • Pale, cool, clammy skin • Delayed capillary refill • Lethargy	• **Trauma** • **Infection** • **Dehydration** **Vomiting** **Diarrhea** **Fever** • **Congenital heart disease** • **Medication or Toxin**



Pearls:

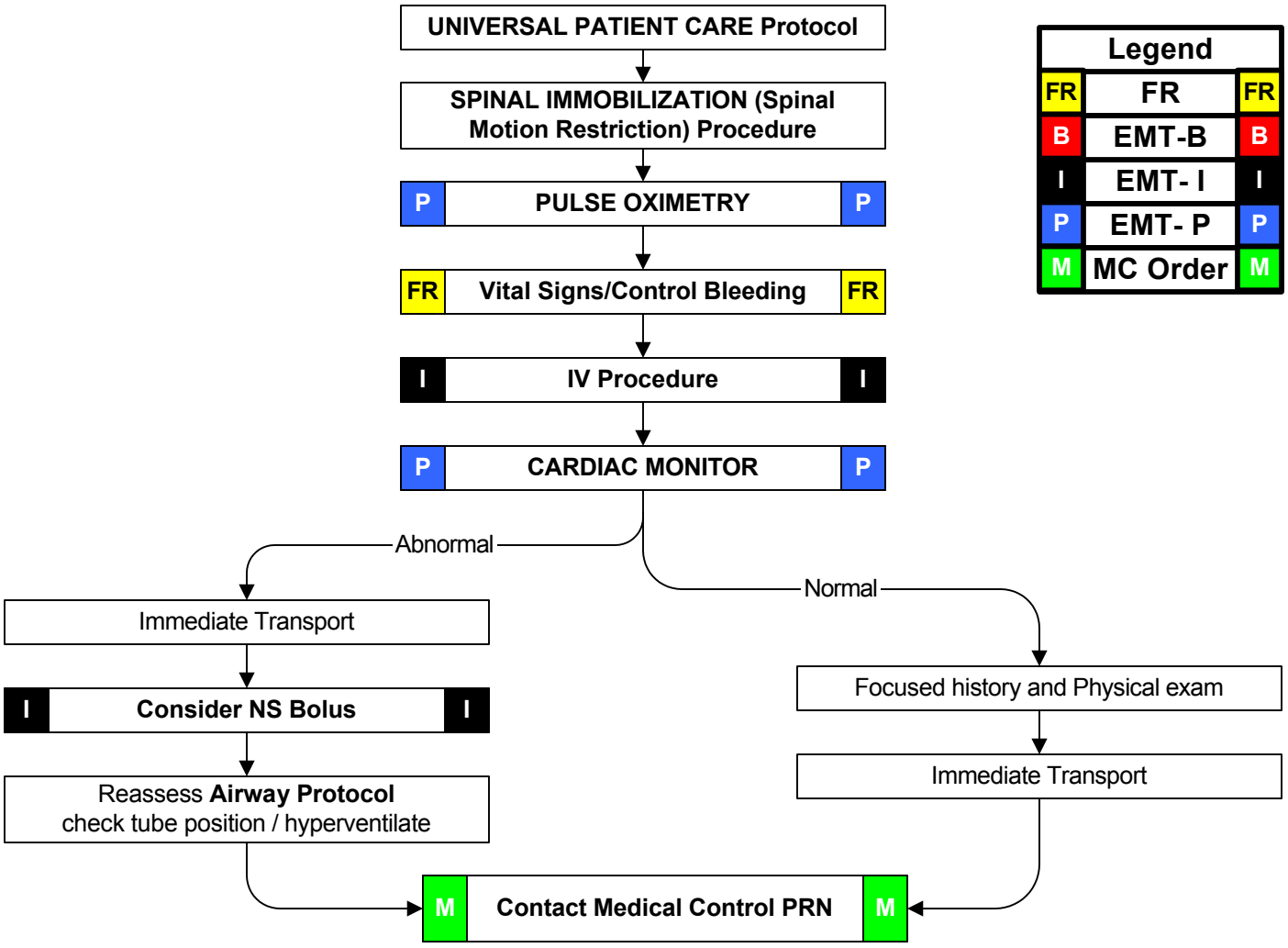
- **Exam: Mental Status, Skin, HEENT, Heart, Lung, Abdomen, Extremities, Back, Neuro**
- Consider all possible causes of shock and treat per appropriate protocol.
- Decreasing heart rate is a sign of impending collapse.
- Most maternal medications pass through breast milk to the infant. Examples: Narcotics, Benzodiazepines.

Pediatric Multiple Trauma

History:
- Time and mechanism of injury
- Damage to structure or vehicle
- Location in structure or vehicle
- Others injured or dead
- Speed and details of MVC
- Restraints / Protective equipment
  - Carseat
  - Helmet
  - Pads
- Ejection
- **SAMPLE**

Signs and Symptoms:
- Pain, swelling
- Deformity, lesions, bleeding
- Altered mental status
- Unconscious
- Hypotension or shock
- Arrest

Differential (Life Threatening):
- **Chest**
  - **Tension pneumothorax**
  - **Flail chest**
  - **Pericardial tamponade**
  - **Open chest wound**
  - **Hemothorax**
- **Intra-abdominal bleeding**
- **Pelvis / Femur fracture**
- **Spine fracture / Cord injury**
- **Head injury (see Head Trauma)**
- **Extremity fracture / dislocation**
- **HEENT (Airway obstruction)**
- **Hypothermia**



Pearls:

Exam: Mental Status, Skin, HEENT, Heart, Lung, Abdomen, Extremities, Back, Neuro
- Mechanism is the most reliable indicator of serious injury. Examine all restraints / protective equipment for damage.
- In prolonged extrications or serious trauma consider air transportation for transport times and the ability to give blood.
- **Splinting is secondary to transport.**
- Do not overlook the possibility for child abuse.

Pediatric Pulseless Arrest

History:	Signs and Symptoms:	Differential:
• Time of arrest • Possibility of foreign body • Hypothermia • **SAMPLE**	• Unresponsive • Cardiac arrest	• **Respiratory failure** **Foreign body** **Secretions** **Infection (croup, epiglotitis)** • **Hypovolemia (dehydration)** • **Congenital heart disease** • **Trauma** • **Tension pneumothorax** • **Hypothermia** • **Toxin, poison, or medication** • **Hypoglycemia** • **Acidosis**

UNIVERSAL PATIENT CARE Protocol
PEDIATRIC AIRWAY Protocol

FR **CPR** **FR**

P **12 LEAD ECG/CM** **P**

Legend	
FR	FR
B	EMT-B
I	EMT- I
P	EMT- P
M	MC Order

Ventricular fibrillation / tachycardia

I **Defibrillate**
1st 2 j/kg
2nd 4 j/kg
3rd 4 j/kg **I**

I **IV Procedure** **I**

P **Consider Epinephrine** **P**

I **Repeat Defibrillation** **I**

P **Consider Lidocaine** **P**

I **Repeat Defibrillation** **I**

M **Contact Medical Control PRN** **M**

Asystole / PEA
(Asystole must be confirmed in 2 leads)

I **IV Procedure** **I**

P **Consider Epinephrine** **P**

P **Consider Atropine** **P**

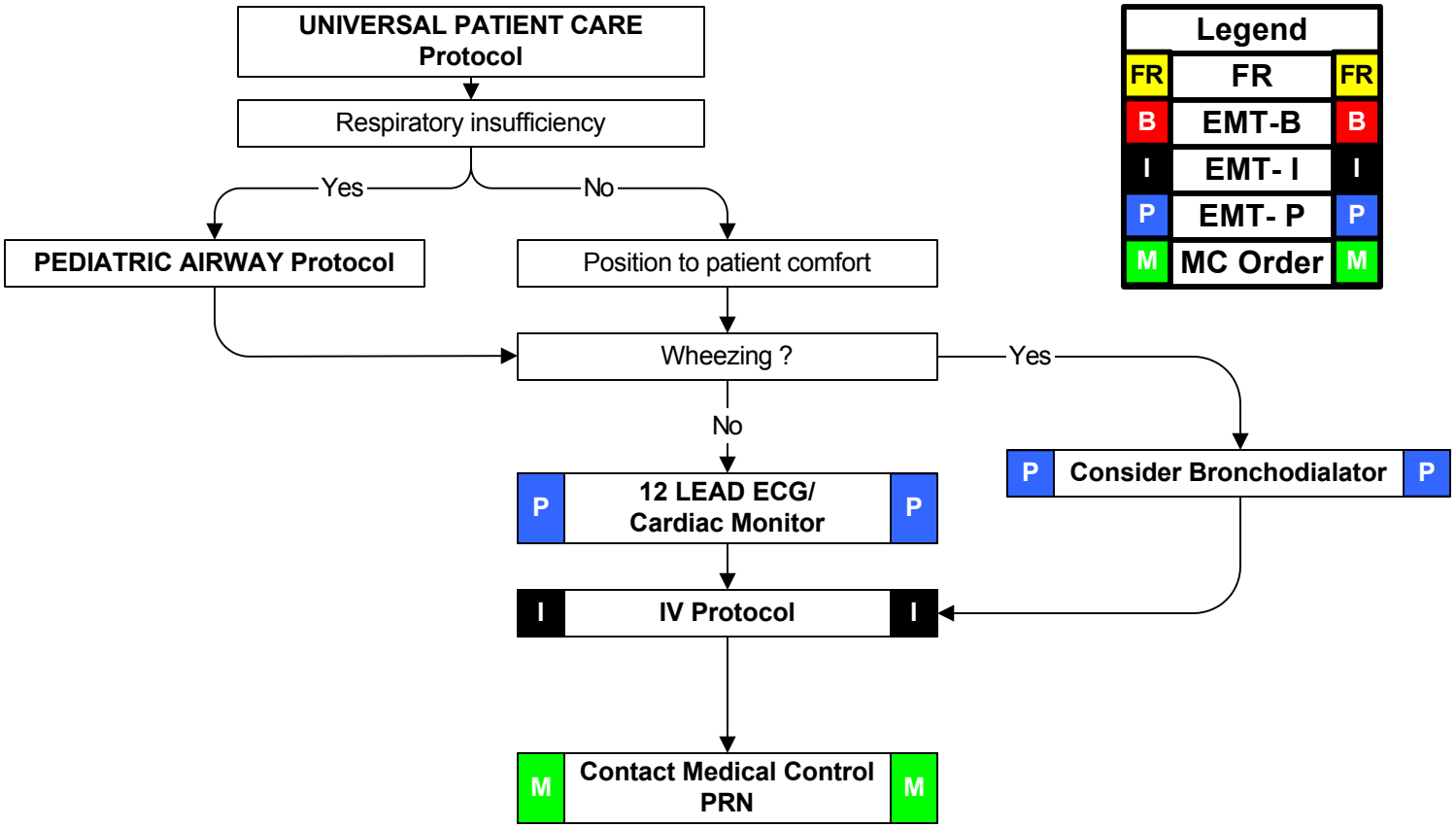
Consider All Causes
Hypoxemia
Hypovolemia
Hypothermia
Hypo/hyperkalemia and metabolic disorders
Tamponade
Tension pneumothorax
Toxins/poisons/drugs
Thromboembolism

M **Contact Med Control PRN** **M**

Pearls:
- **Exam: Mental Status**
- Monophasic and Biphasic waveform defibrillators should use the same energy levels noted above.
- In order to be successful in pediatric arrests, a cause must be identified and corrected.
- Airway is the most important intervention. This should be accomplished immediately. Patient survival is often dependent on airway management success.

Pediatric Respiratory Distress

History:	Signs and Symptoms:	Differential:
• Time of onset • Possibility of foreign body • Fever or respiratory infection • Other sick siblings • History of trauma • **SAMPLE**	• Wheezing or stridor • Respiratory retractions • Increased heart rate • Altered level of consciousness • Anxious appearance • **OPQRST**	• **Asthma** • **Aspiration** • **Foreign body** • **Infection** **Pneumonia** **Croup** **Epiglotitis** • **Congenital heart disease** • **Medication or Toxin** • **Trauma**

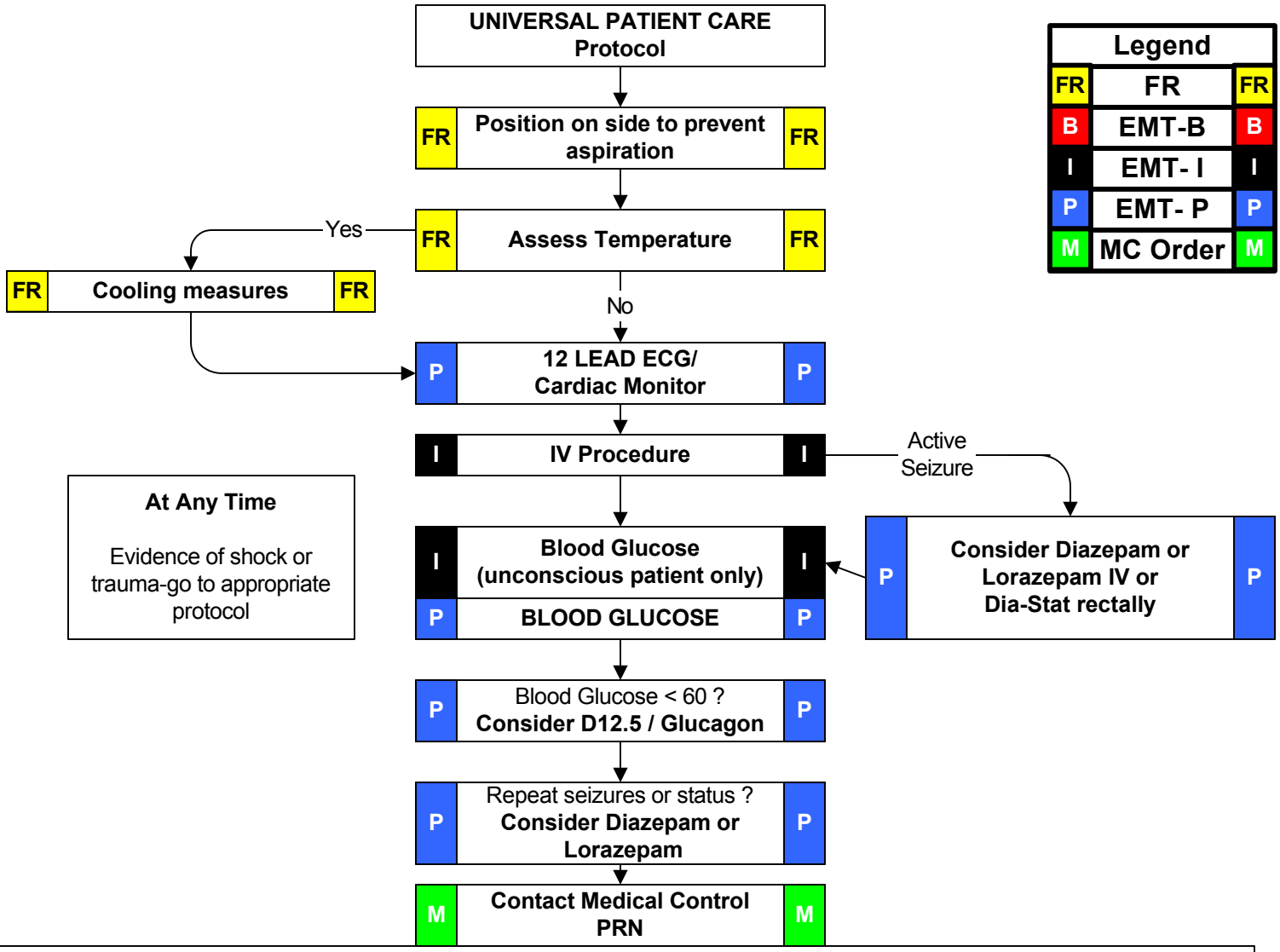


Pearls:

- **Exam: Mental Status, HEENT, Skin, Neck, Heart, Lungs, Abdomen, Extremities, Neuro**
- **Pulse oximetry** should be monitored continously if initial saturation is ≤ 96%, or there is a decline in patient status despite normal pulse oximetry readings.
- Do not force a child into a position. They will protect their airway by their body position.
- The most important component of respiratory distress is airway control.
- Croup typically affects children < 2 years of age. It is viral, possible fever, gradual onset, no drooling is noted.
- Epiglottitis typically affects children > 2 years of age. It is bacterial, with fever, rapid onset, possible stridor, patient wants to sit up to keep airway open, drooling is common. **Airway manipulation may worsen the condition.**
- In some cases of respiratory insufficiency, Medical Control may order Epinephrine 1:1000.

Pediatric Seizure

History:	Signs and Symptoms:	Differential:
• Fever • Prior history of seizures • Seizure medications • Tylenol use • Reported seizure activity • History of recent head trauma • Congenital abnormality • **SAMPLE**	• Observed seizure activity • Altered mental status • Hot, dry skin or elevated body temperature	• **Fever** • **Infection** • **Head trauma** • **Medication or Toxin** • **Hypoxia or Respiratory failure** • **Hypoglycemia** • **Metabolic abnormality / acidosis** • **Tumor**



Pearls:

- **Exam: Mental Status, HEENT, Heart, Lungs, Extremities, Neuro**
- **Status Epilepticus** is defined as two or more successive seizures without a period of consciousness or recovery. This is a true emergency requiring rapid airway control, treatment, and transport.
- **Grand mal seizures** (generalized) are associated with loss of consciousness, incontinence, and tongue trauma.
- **Focal seizures (petit mal)** effect only a part of the body and are not usually associated with a loss of consciousness.
- **Jacksonian seizures** are seizures which start as a focal seizure and become generalized.
- Be prepared to assist ventilations especially if a benzodiazipine is used.
- If evidence or suspicion of trauma, spine should be immobilized.
- If febrile, remove clothing and sponge with room temperature water.
- **In an infant, a seizure may be the only evidence of a closed head injury.**

Pediatric Supraventricular Tachycardia

HistorY	Signs and Symptoms:	Differential:
• Medications or Toxic Ingestion (Aminophylline, Diet pills, Thyroid supplements, Decongestants, Digoxin, Ritalin, Adderal) • Drugs (nicotine, cocaine) • Congenital Heart Disease • Respiratory Distress • Syncope or Near Syncope • **SAMPLE**	• Heart Rate: Child > 180/bpm Infant > 220/bpm • Pale or Cyanosis • Diaphoresis • Tachypnea • Vomiting • Hypotension • Altered Level of Consciousness • Pulmonary Congestion • Syncope	• **Heart disease (Congenital)** • **Hypo / Hyperthermia** • **Hypovolemia or Anemia** • **Electrolyte imbalance** • **Anxiety / Pain / Emotional stress** • **Fever / Infection / Sepsis** • **Hypoxia** • **Hypoglycemia** • **Medication / Toxin / Drugs (see HX)** • **Pulmonary embolus** • **Trauma** • **Tension Pneumothorax**

UNIVERSAL PATIENT CARE Protocol

P **12 LEAD ECG/Continuous Cardiac Monitoring** P

P **Continuous PULSE OXIMETRY** if available P

I **IV Procedure** I

Legend		
FR	FR	FR
B	EMT-B	B
I	EMT- I	I
P	EMT- P	P
M	MC Order	M

Stable

M **Contact Medical Control PRN** M

P May attempt **Valsalva's maneuver** initially and after each drug administration if indicated. P

P **Consider Adenosine** P

M **Contact Medical Control PRN** M

Pre-arrest
(No palpable BP, Altered mental status)

P For sedation **Consider Diazepam** P

P **Sync. Cardioversion (0.5 joules/kg)** P

P **Repeat cardioversion (1.0 - 2.0 joules/kg)** P

If rhythm changes **Go to Appropriate Protocol**

M **Contact Med Control PRN** M

Pearls:

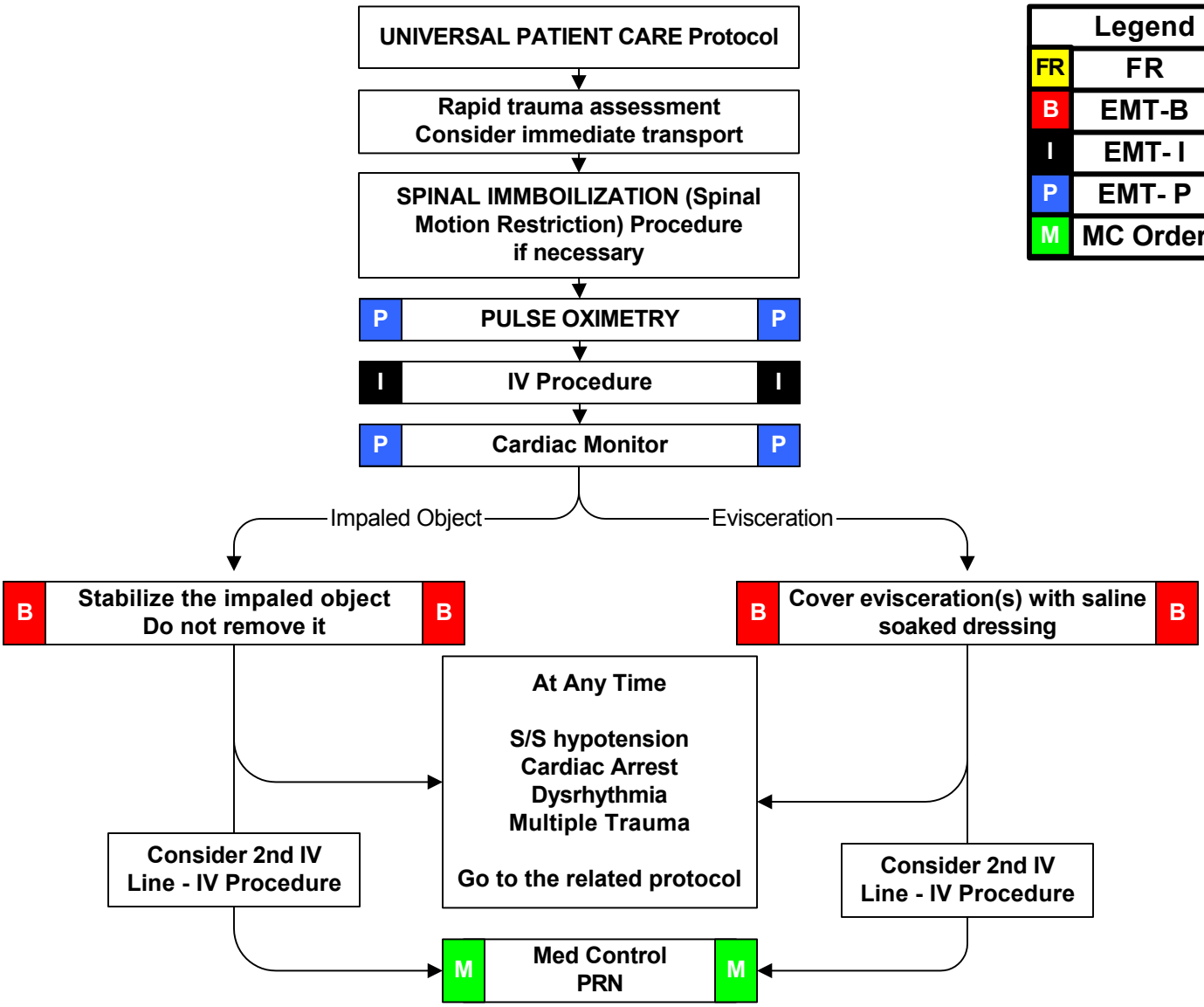
- **Exam: Mental Status, Skin, Neck, Lung, Heart, Abdomen, Back, Extremities, Neuro**
- Carefully evaluate the rhythm to distinguish Sinus Tachycardia, Supraventricular Tachycardia, and Ventricular Tachycardia
- Seperating the child from the caregiver may worsen the child's clinical condition.
- Pediatric paddles should be used in children < 10 kg or Broselow-Luten color Purple
- Continuous pulse oximetry is required for all SVT Patients if available.
- Document all rhythm changes with monitor strips and obtain monitor strips with each therapeutic intervention.

Trauma

Trauma

Abdominal/Pelvic Trauma

History:	Signs and Symptoms:	Differential:
• Time of injury • Type of injury • Other trauma • Loss of consciousness • **SAMPLE**	• Penetrating wounds • Impaled objects • Abdominal evisceration • Abdominal pain on palpation • Hematuria, bloody stool • Altered bowel sounds • Hemoptysis • Signs/symptoms of shock	• **Open abdominal/pelvic wound** • **Impaled object** • **Pelvic fracture** • **Multiple trauma**

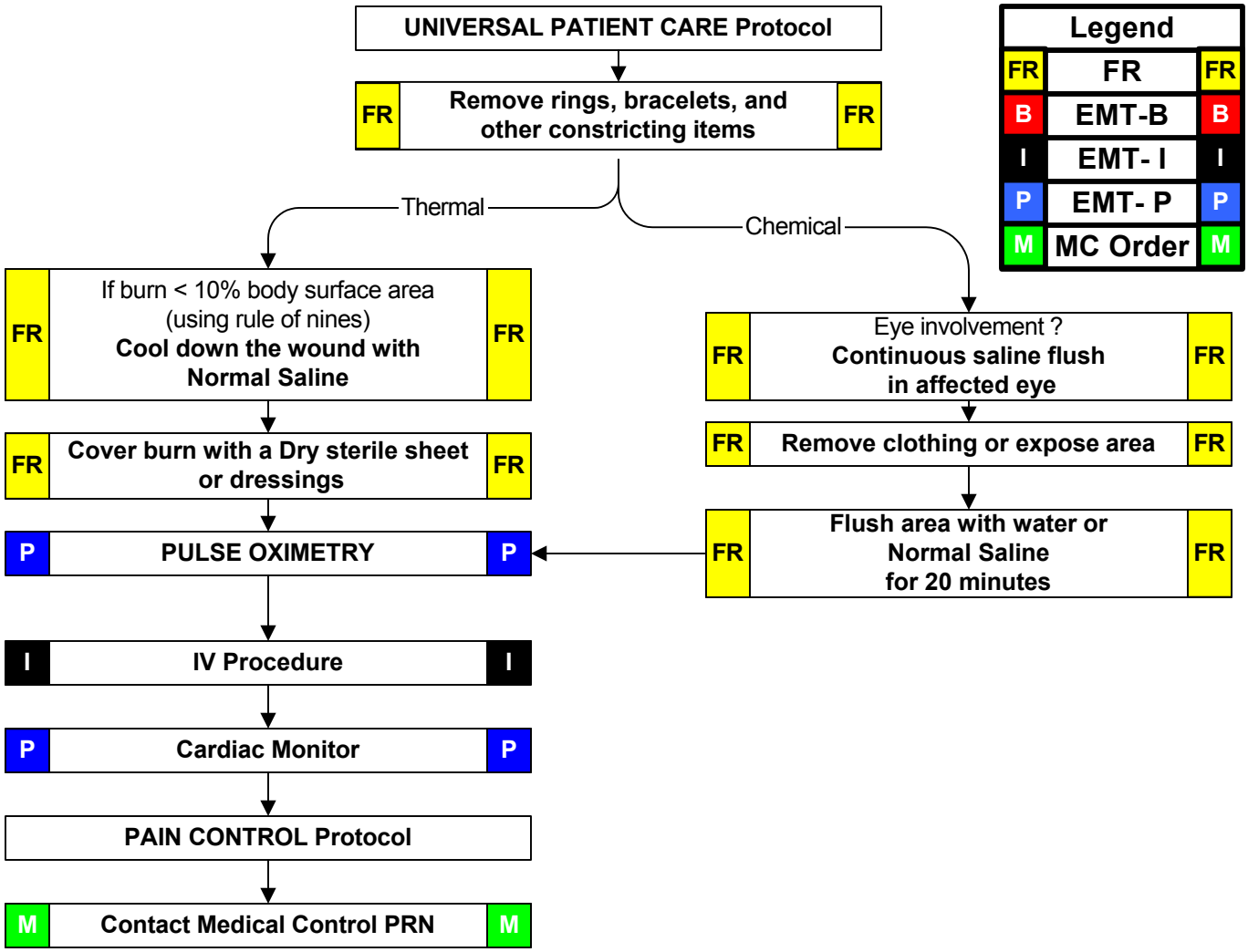


Pearls

- **EXAM: Mental Status, HEENT, Neck, Heart, Lungs, Abdomen, Extremities, Back, Neuro**
- **Never try to remove an impaled object.**

Burns

History:	Signs and Symptoms:	Differential:
• Type of exposure (heat, gas, chemical) • Inhalation injury • Time of injury • Other trauma • Loss of consciousness • Tetanus/Immunization status • **SAMPLE**	• Burns, pain, swelling • Dizziness • Loss of consciousness • Hypotension / shock • Airway compromise / distress • Singed facial or nasal hair • Hoarseness / wheezing	• **Superficial (1°)** red and painful • **Partial thickness (2°)** blistering • **Full thickness (3°)** painless and charred or leathery skin • **Chemical** • **Thermal** • **Electrical** • **Radiation**



Pearls:

- **Exam: Mental Status, HEENT, Neck, Heart, Lungs, Abdomen, Extremities, Back, Neuro**
- **Critical Burns:** >25% body surface area (BSA); 3° burns >10% BSA; 2° and 3° burns to face, eyes, hands, groin or feet; electrical burns; respiratory burns; deep chemical burns; burns with extremes of age or chronic disease; and burns with associated major traumatic injury. These burns may require hospital admission or transfer to a burn center.
- **Early intubation is required in significant inhalation injuries.**
- Potential CO exposure should be treated with 100% oxygen.
- Circumferential burns to extremities are dangerous due to potential vascular compromise 2° to soft tissue swelling.
- Burn patients are prone to hypothermia - Never apply ice or cool burns that involve >10% body surface area.
- Do not overlook the possibility of multiple system trauma.
- Do not overlook the possibility for child abuse with children and burn injuries.
- **See APPENDIX for rule of nines.**

Extremity Trauma

History:	Signs and Symptoms:	Differential:
• Type of injury • Mechanism: crush / penetrating / amputation • Time of injury • Open vs. closed wound / fracture • Wound contamination • **SAMPLE**	• Pain, swelling • Deformity • Altered sensation / motor function • Diminished pulse / capillary refill • Decreased extremity temperature	• **Abrasion** • **Contusion** • **Laceration** • **Sprain** • **Dislocation** • **Fracture** • **Amputation**

Legend		
FR	FR	FR
B	EMT-B	B
I	EMT- I	I
P	EMT- P	P
M	MC Order	M

UNIVERSAL PATIENT CARE Protocol

↓

WOUND CARE Procedure
Control hemorrhaging

↓

SPINAL IMMOBILIZATION (Spinal Motion Restriction) Procedure

↓

P **PULSE OXIMETRY** P

↓

I **IV Procedure** I

↓

PAIN CONTROL Protocol

↓

P **Cardiac Monitor** P

↓

Amputation ?
Clean amputated part
Wrap part in sterile dressing soaked in Normal Saline
Place in air tight container
Place container on ice if available

↓

Consider EXTREMITY IMMOBILIZATION Protocol

↓

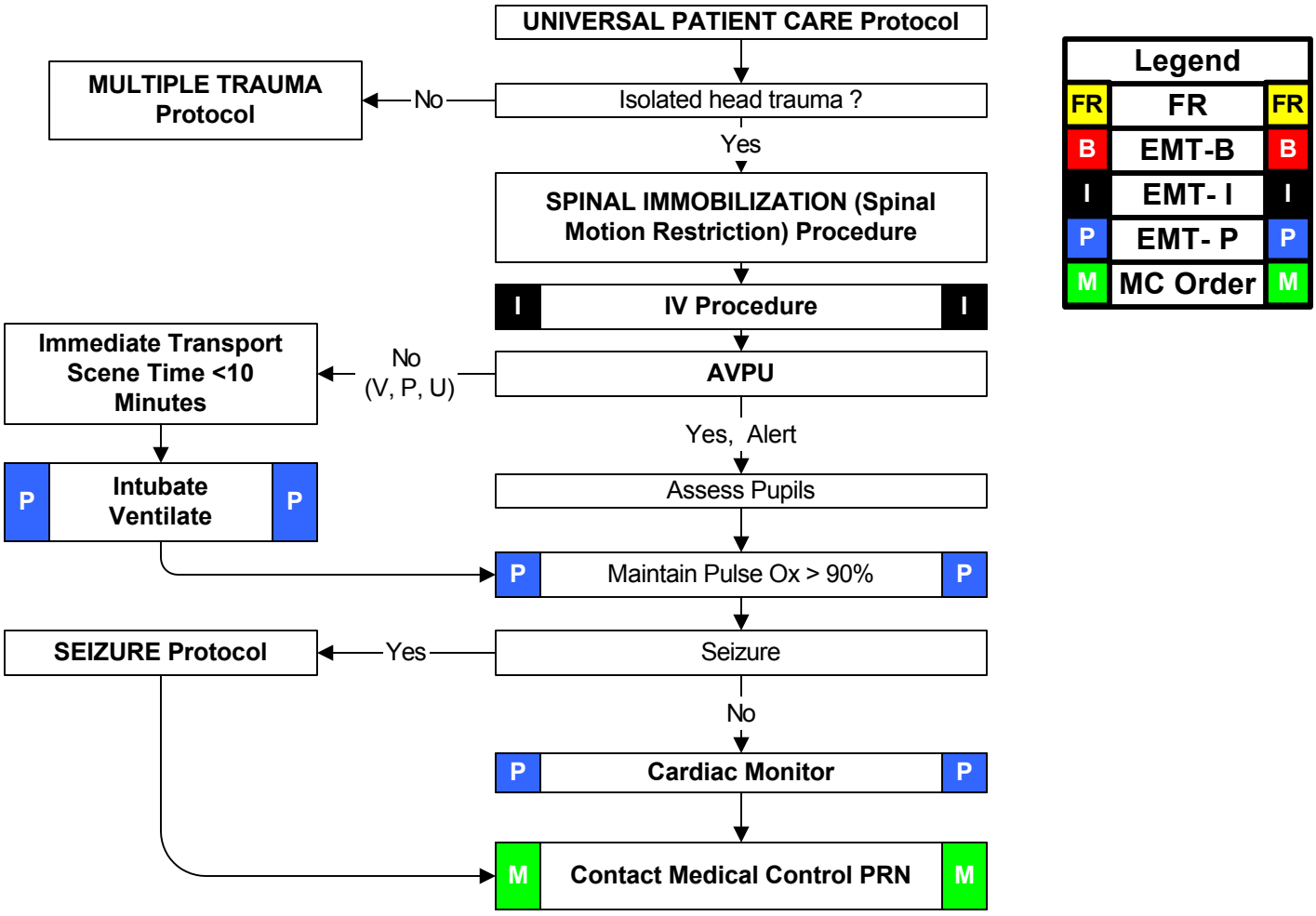
M **Contact Medical Control PRN** M

Pearls:

- **Exam: Mental Status, Extremity, Neuro**
- In amputations, time is critical. Transport and notify medical control immediately, so that the appropriate destination can be determined.
- Hip dislocations and knee and elbow fracture / dislocations have a high incidence of vascular compromise.
- Urgently transport any injury with vascular compromise.
- Blood loss may be concealed or not apparent with extremity injuries.
- Lacerations must be evaluated for repair within 6 hours from the time of injury.

Head Trauma

History:	Signs and Symptoms:	Differential:
• Time of injury • Mechanism: blunt / penetrating • Loss of consciousness • Bleeding • Evidence of multi-trauma • Helmet use or damage to helmet • **SAMPLE**	• Pain, swelling, bleeding • Altered mental status/ Unconscious • Respiratory distress / failure • Vomiting • Decreased reflexes, paralysis in extremeties • Decorticate/Decerebrate posturing	• **Skull fracture** • **Brain injury (concussion, contusion, hemorrhage, or laceration)** • **Epidural hematoma** • **Subdural hematoma** • **Subarachnoid hemorrhage** • **Spinal injury** • **Abuse**

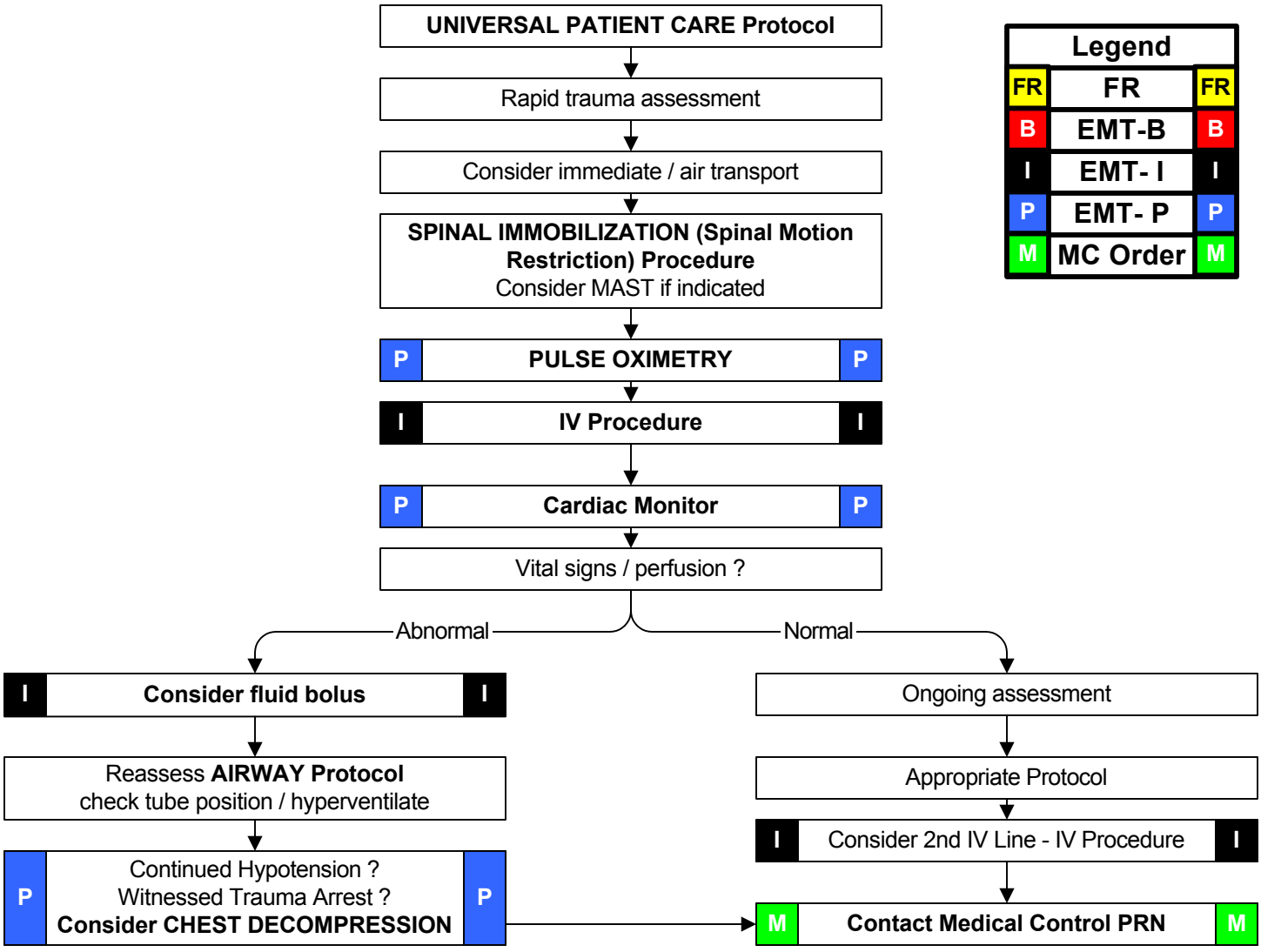


Pearls:

- **Exam: Mental Status, HEENT, Heart, Lungs, Abdomen, Extremities, Back, Neuro**
- If GCS < 14 and RTS <11, consider Air / Rapid Transport.
- In absence of capnometer, hyperventilate the patient (adult: 20 breaths / min, child: 30, infant: 35) only if ongoing evidence of brain herniation (blown pupil, decorticate or decerebrate posturing, or bradycardia). Normal ventilation rates adult: 10 breaths/min, child: 20, infant: 25).
- Increased intracranial pressure (ICP) may cause hypertension and bradycardia (Cushing's Response).
- Hypotension usually indicates injury or shock unrelated to the head injury and should be agressively treated.
- **The most important item to monitor and document is a change in the level of consciousness**.
- Consider **Restraints** if necessary for patient's and/or personnel's protection per the Restraint Procedure.
- Limit IV fluids unless patient is hypotensive (systolic BP < 90).
- Concussions are periods of confusion or LOC associated with trauma which may have resolved by the time EMS arrives. Any prolonged confusion or mental status abnormality which does not return to normal within 15 minutes or any documented loss of consciousness should be evaluated by a physician ASAP.

Multiple Trauma

History:	Signs and Symptoms:	Differential (Life threatening):
• Time and mechanism of injury • Damage to structure or vehicle • Location in structure or vehicle • Others injured or dead • Speed and details of MVC • Restraints / protective equipment • **SAMPLE**	• Pain, swelling • Deformity, lesions, bleeding • Altered mental status or unconscious • Hypotension or shock • Arrest	• **Chest** **Tension pneumothorax** **Flail chest** **Pericardial tamponade** **Open chest wound** **Hemothorax** • **Intra-abdominal bleeding** • **Pelvis / Femur fracture** • **Spine fracture / Cord injury** • **Head injury (see Head Trauma)** • **Extremity fracture / Dislocation** • **HEENT (Airway obstruction)** • **Hypothermia**

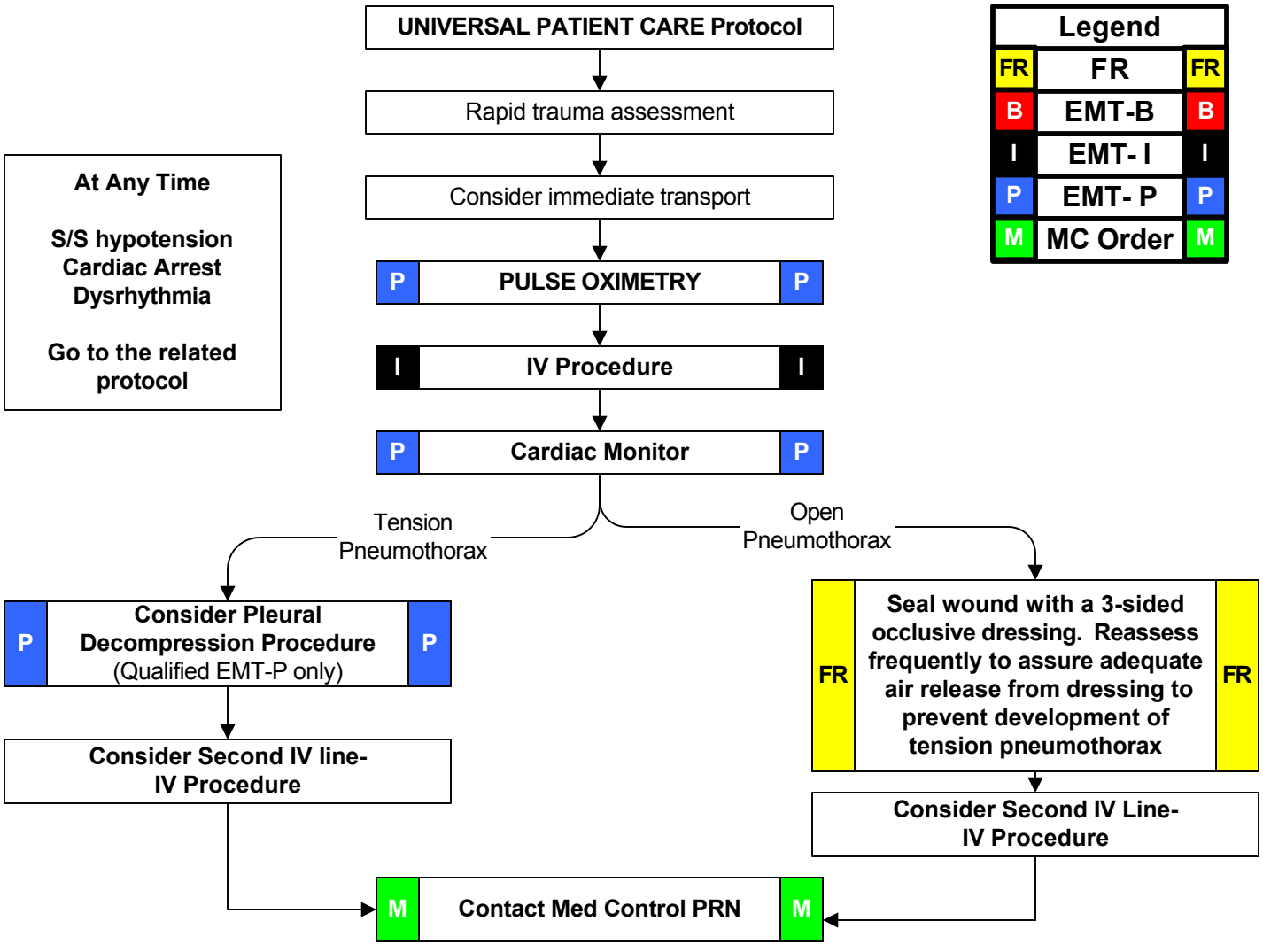


Pearls:

- **Exam: Mental Status, Skin, HEENT, Heart, Lung, Abdomen, Extremities, Back, Neuro**
- Mechanism is the most reliable indicator of serious injury.
- In prolonged extrications or serious trauma, consider air transportation for transport times and the ability to give blood.
- Consider MAST in "load and go" situations with suspected pelvic or femur fractures.
- Do not overlook the possibility of associated domestic violence or abuse.

Pneumothorax

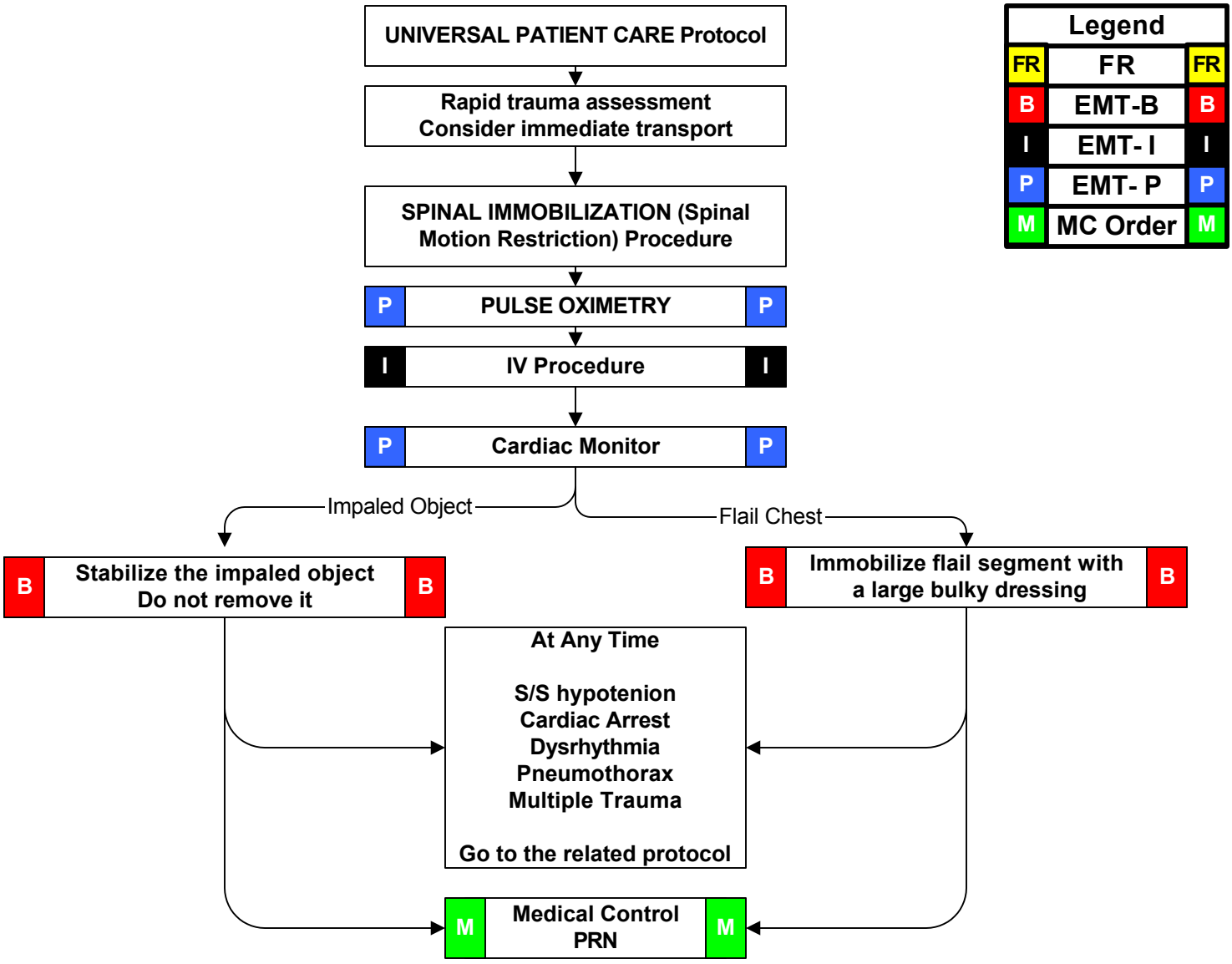
History:	Signs and Symptoms:	Differential:
• Time of injury • Other trauma • **SAMPLE**	• Acute respiratory distress • Decreased/unilateral breath sounds • Decreased blood pressure • Rapid, weak pulse • Anxiety • Decreased level of consciousness • Cyanosis • Tracheal deviation • Jugular vein distention • Subcutaneous emphysema	• **Tension pneumothorax** • **Open pnuemothorax** • **Hemothorax** • **Penetrating chest wounds/impaled objects**



Pearls:
- **EXAM: Mental Status, HEENT, Neck, Heart, Lungs, Abdomen, Extremities, Back, Neuro**
- **Plueral decompression is an optional skill and may only be performed by a qualified EMT-P.**
- **If a penetrating object has caused the pneumothorax, do not remove it. Stabilize the object.**

Thoracic Trauma

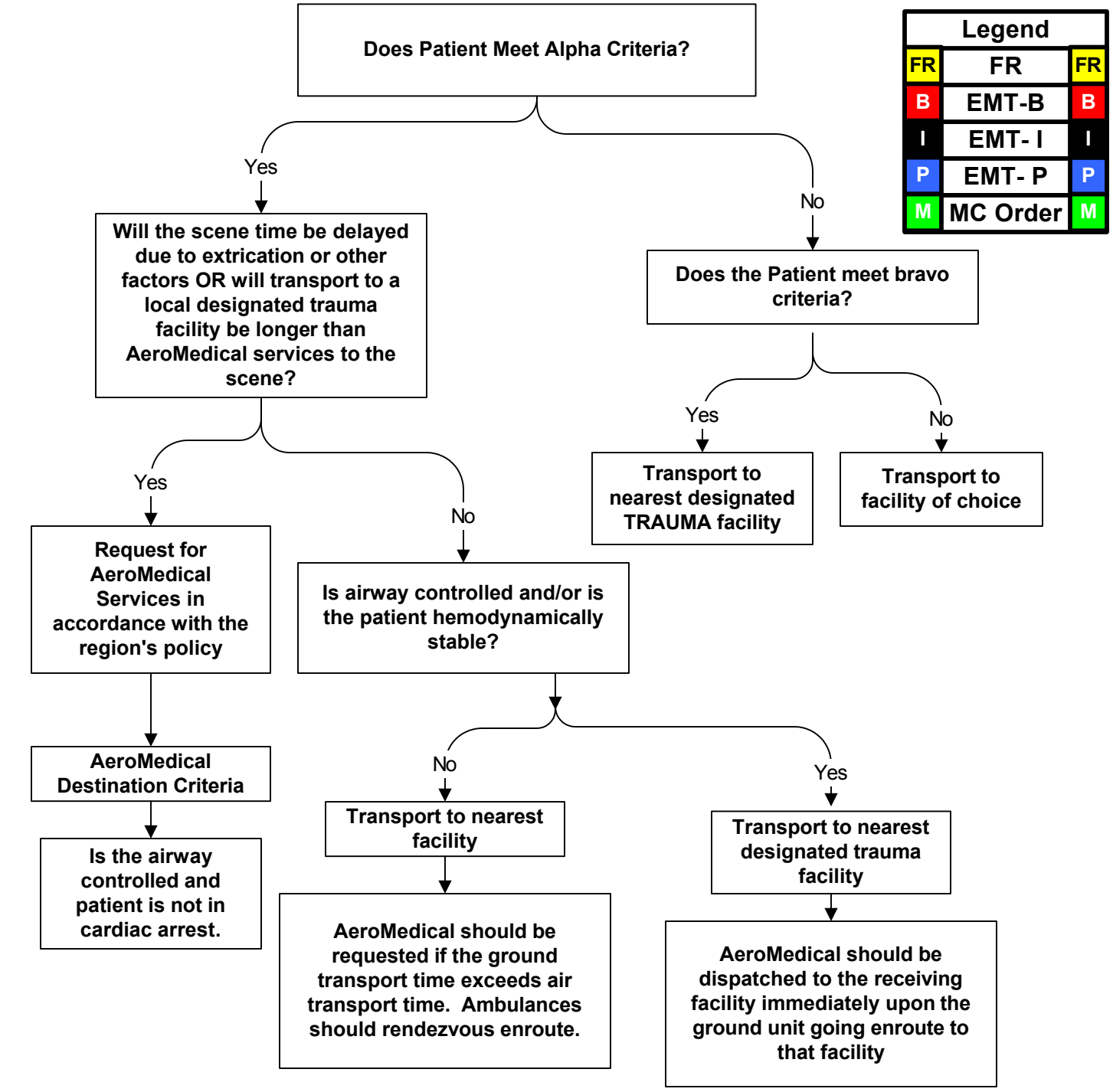
History:	Signs and Symptoms:	Differential:
• Time of injury • Type of injury • Other trauma • Loss of consciousness • **SAMPLE**	• Penetrating wounds • Decreased/unilateral breath sounds • Impaled objects • Tracheal deviation • Respiratory distress • Signs/symptoms of shock	• **Flail chest** • **Open chest wound** • **Impaled object**



Pearls

- **EXAM: Mental Status, HEENT, Neck, Heart, Lungs, Abdomen, Extremeties, Back, Neuro**
- **Sand bags should never be used to stabilize an injury site.**
- **Never try to remove an impaled object.**

Trauma Triage and Destination Protocol



Pearls:

If a facility refuses a patient or declares trauma diversion, the paramedic must contact medical control for orders for patient destination.

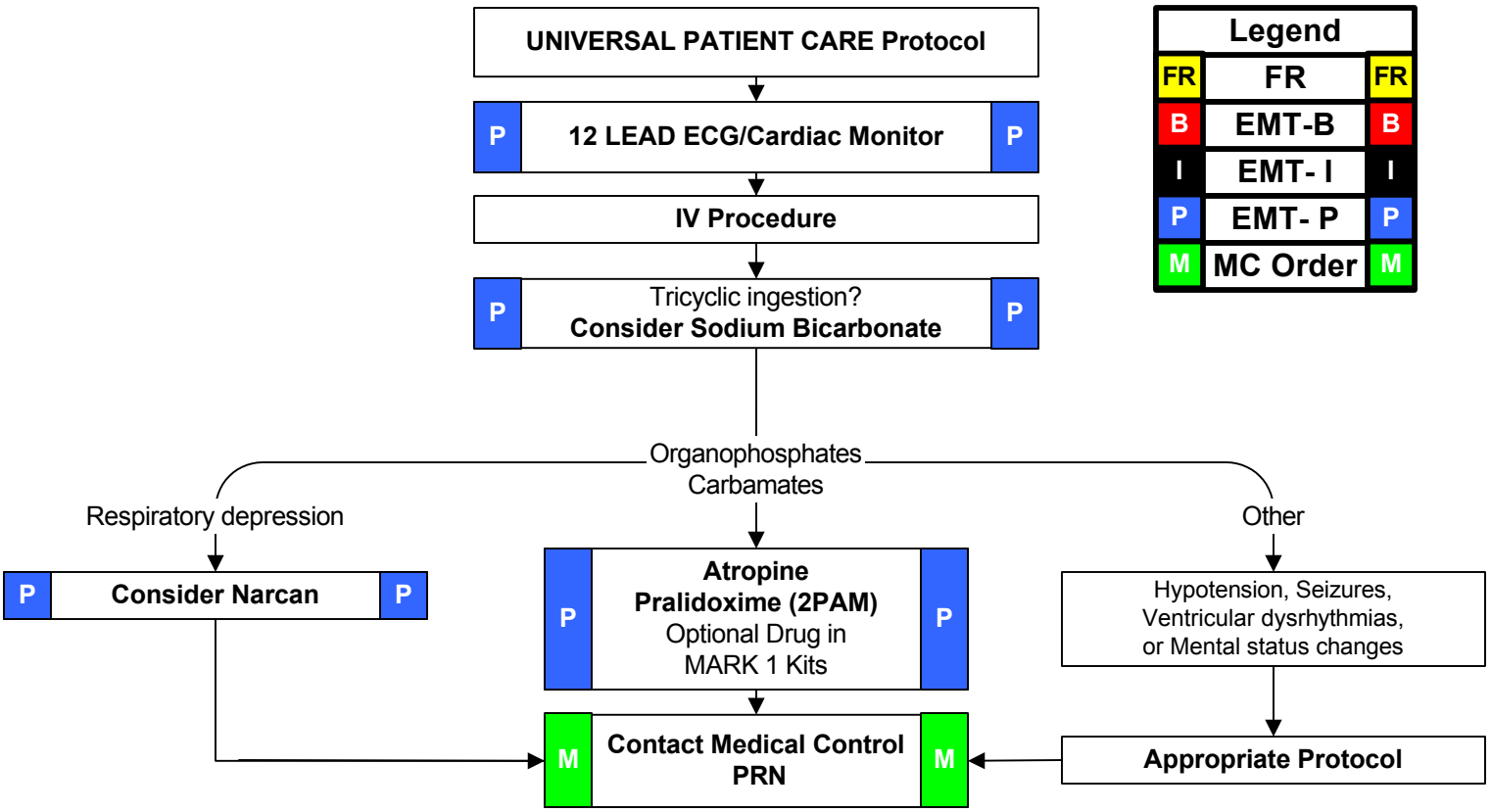
A controlled airway is defined as a patient with a GCS of a 9 or greater, able to protect tehir airway or a pateint who has been intubated.

Hemodynamically stable is defined as no signs and symtoms of hypoperfusion such as altered LOC, absent peripheral pulses, mottled skin (Pediatric), cyanosis, and/or hypotensive for age.

If equidistant between two traum centers, transport to the higher level facility.

Weapons of Mass Destruction
Overdose/Toxic Ingestion

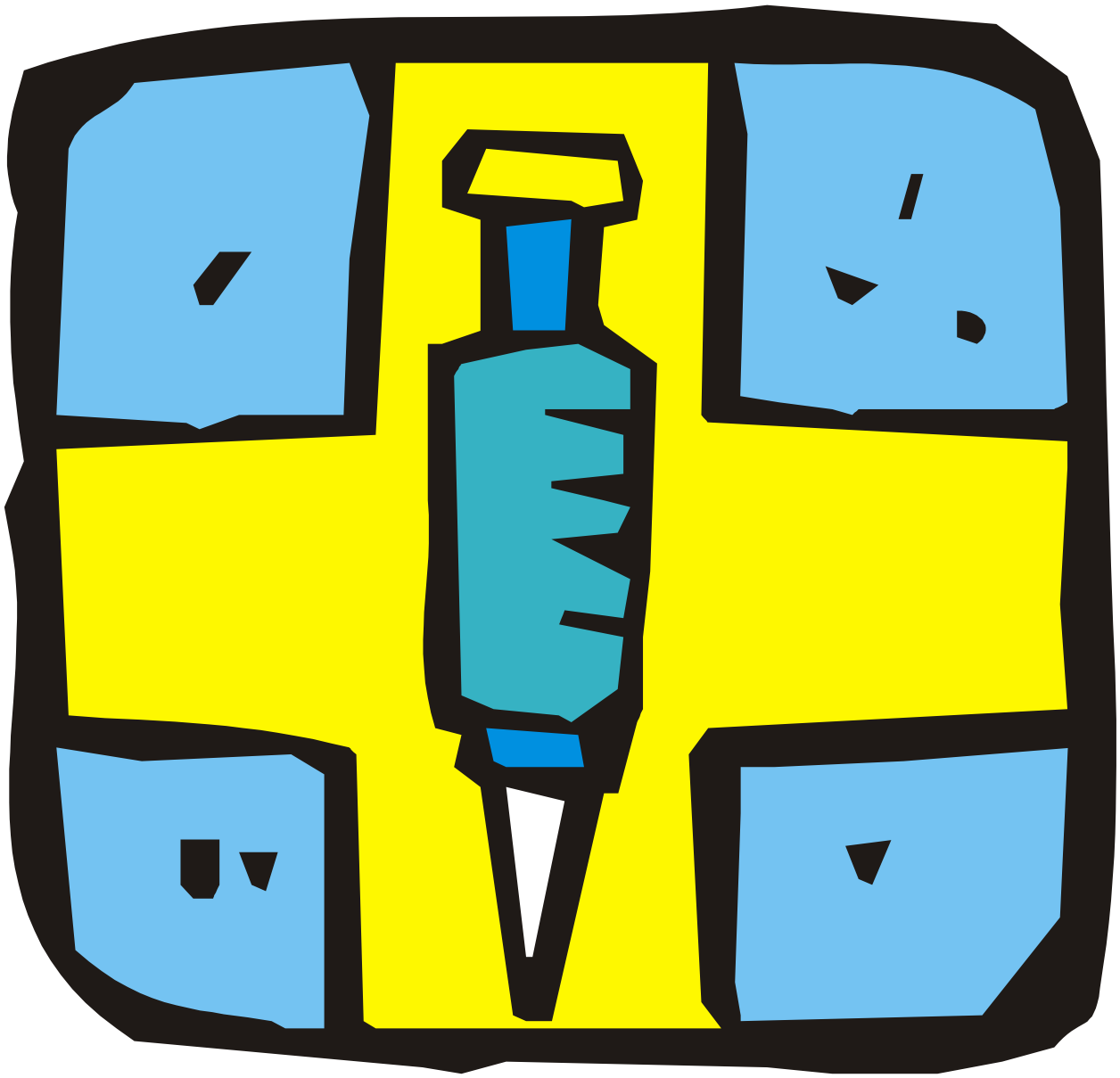
History:	Signs and Symptoms:	Differential:
• Ingestion or suspected ingestion of a potentially toxic substance • Substance ingested, route, quantity • Time of ingestion • Reason (suicidal, accidental, criminal) • Available medications in home • **SAMPLE**	• Mental status changes • Hypotension / hypertension • Decreased respiratory rate • Tachycardia, dysrhythmias • Seizures	• **Tricyclic antidepressants (TCAs)** • **Acetaminophen (tylenol)** • **Depressants** • **Stimulants** • **Anticholinergic** • **Cardiac medications** • **Solvents, Alcohols, Cleaning agents** • **Insecticides (organophosphates)**



Pearls:

- **Exam: Mental Status, Skin, HEENT, Heart, Lungs, Abdomen, Extremities, Neuro**
- Do not rely on patient history of ingestion, especially in suicide attempts.
- Bring bottles, contents, emesis to ED.
- **Tricyclic:** 4 major areas of toxicity: seizures, dysrhythmias, hypotension, decreased mental status or coma; rapid progression from alert mental status to death.
- **Acetaminophen:** initially normal or nausea/vomiting. If not detected and treated, causes irreversible liver failure
- **Depressants:** decreased HR, decreased BP, decreased temperature, decreased respirations, non-specific pupils
- **Stimulants:** increased HR, increased BP, increased temperature, dilated pupils, seizures
- **Anticholinergic:** increased HR, increased temperature, dilated pupils, mental status changes
- **Cardiac Meds:** dysrhythmias and mental status changes
- **Solvents:** nausea, vomiting, and mental status changes
- **Insecticides:** increased or decreased HR, increased secretions, nausea, vomiting, diarrhea, pinpoint pupils
- An NG tube is required for charcoal administration in all patients with (or with potential) for mental status changes.
- Consider restraints if necessary for patient's and/or personnel's protection per the **RESTRAINT Procedure**.
- MARK 1 kits contain 2 mg of Atropine and 600 mg of pralidoxime in an autoinjector for self administration or patient care. These kits may be available as part of the domestic preparedness for Weapons of Mass Destruction.
- Consider contacting the Mississippi Poison Control Center for guidance.

Procedures



Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

12 Lead ECG

Optional Skill

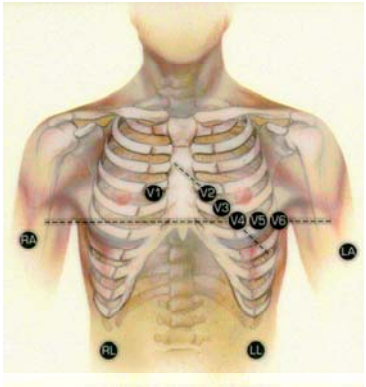
Clinical Indications include, but are not limited to:

P EMT-P P

- Suspected cardiac patient
- Suspected tricyclic overdose
- Electrical injuries
- Syncope

Procedure:

1. Assess patient and monitor cardiac status.
2. Administer oxygen as patient condition warrants.
3. If patient is unstable, definitive treatment is the priority. If patient is stable or stabilized after treatment, perform a 12 Lead ECG.
4. Prepare ECG monitor and connect patient cable with electrodes.
5. Enter the required patient information (patient name, etc.) into the 12 lead ECG device.
6. Expose chest and prep as necessary. Modesty of the patient should be respected.
7. Apply chest leads and extremity leads using the following landmarks:
   - RA -Right arm
   - LA -Left arm
   - RL -Right leg
   - LL -Left leg
   - V1 -4th intercostal space at right sternal border
   - V2 -4th intercostal space at left sternal border
   - V3 -Directly between V2 and V4
   - V4 -5th intercostal space at midclavicular line
   - V5 -Level with V4 at left anterior axillary line
   - V6 -Level with V5 at left midaxillary line



8. Instruct patient to remain still.
9. Press the appropriate button to acquire the 12 Lead ECG.
10. If the monitor detects signal noise (such as patient motion or a disconnected electrode), the 12 Lead acquisition will be interrupted until the noise is removed.
11. Once acquired, transmit the ECG data by fax to the appropriate hospital.
12. Contact the receiving hospital to notify them that a 12 Lead ECG has been sent.
13. Monitor the patient while continuing with the treatment protocol.
14. Download data as per guidelines and attach a copy of the 12 lead to the ACR.
15. Document the procedure, time, and results on/with the patient care report (PCR)

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Airway-Combitube

I	EMT- I	I
P	EMT- P	P

Clinical Indications:

- In an apneic patient when endotracheal intubation is not possible or not available.
- Patient must be ≥ 5 feet and ≥16 years of age.
- Patient must be unconscious.

Procedure:

1. Preoxygenate and hyperventilate the patient.
2. Lubricate the tube.
3. Grasp the patient's tongue and jaw with your gloved hand and pull forward.
4. Gently insert the tube until the teeth are between the printed rings.
5. Inflate line 1 (blue pilot balloon) leading to the pharyngeal cuff with 100 cc of air.
6. Inflate line 2 (white pilot balloon) leading to the distal cuff with 15 cc of air.
7. **Ventilate the patient through the longer blue tube**.
   Auscultate for breath sounds and sounds over the epigastrium.
   Look for the chest to rise and fall.
8. **If breath sounds are positive and epigastric sounds are negative, continue ventilation through the blue tube. The tube is in the esophagus.**
   In the esophageal mode, stomach contents can be aspirated through the #2, white tube relieving gastric distention.
9. If breath sounds are negative and epigastric sounds are positive, attempt ventilation through the shorter, #2 white tube and reassess for lung and epigastric sounds. If breath sounds are present and the chest rises, you have intubated the trachea and continue ventilation through the shorter tube.
10. The device is secured by the large pharyngeal balloon.
11. Confirm tube placement using end-tidal CO_2 detector or esophageal bulb device.

- **Endotracheal intubation with a Combitube in Place:**
  (Not necessary if the ventilations are adequate with the Combitube.)
  A. The tube must be in the esophageal mode.
  B. Prepare all equipment needed for endotracheal intubation.
  C. Decompress the stomach by aspirating contents through the shorter, white tube.
  D. Hyperventilate the patient.
  E. Deflate the balloons on the Combitube and remove.
  Suction equipment must be ready.
  F. Rapidly proceed with endotracheal intubation.

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Airway Intubation Confirmation-End-Tidal CO2 Detector

P EMT- P P

Clinical Indications:

- The End-Tidal CO_2 detector shall be used with all endotracheal or Combitube airways.

Procedure:

1. Attach End-Tidal CO_2 detector to combitube or endotracheal tube.
2. Note color change. A color change or CO_2 detection will be documented on each respiratory failure or cardiac arrest patient.
3. The CO_2 detector shall remain in place with the airway and monitored throughout the prehospital care and transport. Any loss of CO_2 detection or color change is to be documented and monitored as procedures are done to verify or correct the airway problem.
4. Tube placement should be verified frequently and always with each patient move or loss of color change in the End-Tidal CO2 detector.
5. Document the procedure and the results on/with the Patient Care Report (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Airway Intubation Confirmation-Esophageal Bulb

P EMT- P P

Clinical Indications:

- To assist in determining and documenting the correct placement of an endotracheal or nasotracheal tube.

Procedure:

1. Complete intubation as per Airway Intubation-Oral or Airway Intubation-Nasal protocols.
2. Place the bulb device over the proximal end of the ETT or NTT. Squeeze the bulb to remove air prior to securing the bulb on the tube.
3. Once secured on the tube, release the bulb.
4. If the bulb expands evenly and easily, this indicates probable tracheal intubation. Assessment of the patient's breath sounds bilaterally should also be performed.
5. If the bulb does not expand easily, this indicates possible esophageal intubation and the need to reassess the airway.
6. Document time and result in the patient care report (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Airway-Nasotracheal Intubation

Clinical Indications:

P EMT-P P

- A spontaneously breathing patient in need of intubation (inadequate respiratory effort, evidence of hypoxia or carbon dioxide retention, or need for airway protection).
- Patient must be 12 years of age or older.

Procedure:

1. Premedicate the patient with nasal spray.
2. Select the largest and least obstructed nostril and insert a lubricated nasal airway to help dilate the nasal passage.
3. Preoxygenate the patient. Lubricate the tube.
4. Remove the nasal airway and gently insert the tube keeping the bevel of the tube toward the septum.
5. Continue to pass the tube listening for air movement and looking for to and fro vapor condensation in the tube. As the tube approaches the larynx, the air movement gets louder.
6. Gently and evenly advance the tube through the glottic opening on the inspiration. This facilitates passage of the tube and reduces the incidence of trauma to the vocal cords.
7. Upon entering the trachea, the tube may cause the patient to cough, buck, strain, or gag. Do not remove the tube! This is normal, but be prepared to control the cervical spine and the patient, and be alert for vomiting.
8. Auscultate for bilaterally equal breath sounds and absence of sounds of the epigastrium. Observe for symmetrical chest expansion. The 15mm adapter usually rests close to the nostril with proper positioning.
9. Inflate the cuff with 5-10 cc of air.
10. Confirm tube placement using an end-tidal CO_2 monitoring or esophageal bulb device.
11. Secure the tube.
12. Document the procedure, time, and result (success) on/with the patient care report (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Airway-Nebulizer Inhalation Therapy

Clinical Indications:

P EMT- P P

- Patients experiencing bronchospasm.

Procedure:

1. Gather the necessary equipment.
2. Assemble the nebulizer kit.
3. Instill the premixed Albuterol into the reservoir well of the nebulizer.
4. Connect the nebulizer device to oxygen at 4 - 6 liters per minute or adequate flow to produce a steady, visible mist.
5. Instruct the patient to inhale normally through the mouthpiece of the nebulizer. The patient needs to have a good lip seal around the mouthpiece.
6. The treatment should last until the solution is depleted. Tapping the reservoir well near the end of the treatment will assist in utilizing all of the solution.
7. Monitor the patient for medication effects. This should include the patient's assessment of his/her response to the treatment and reassessment of vital signs, ECG, and breath sounds.
8. Assess and document peak flows before and after nebulizer treatments.
9. Document the treatment, dose, and route on/with the patient care report (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Airway-Needle Cricothyrotomy

Optional Skill

Clinical Indications:

P EMT-P P

- Failed Airway Protocol
- Management of an airway when standard airway procedures cannot be accomplished or have failed in a patient greater than or equal to 8 years of age

Procedure:

1. Have suction supplies available and ready.
2. Locate the cricothyroid membrane utilizing anatomical landmarks.
3. Use the non-dominant hand to secure the membrane.
4. Prep the area with antiseptic swab (Betadine).
5. Using the syringe and the finder needle supplied in the commercial needle cricothyrotomy kit (or a 5-cc syringe attached to a 10 to 14 gauge catheter-over-needle device if needed), insert the needle through the cricothyroid membrane at a 45 to 60 degree caudal angle.
6. Aspirate for air with the syringe throughout the procedure.
7. Once air returns easily, stop advancing the device.
8. Attach jet ventilation device to port of device used in step 5 above. If jet ventilation is not available, then attach the barrel of a 3 to 5 cc syringe to the device and attach a bag valve mask to the barrel of the syringe.
9. Assess breath sounds. Make certain ample time is used not only for inspiration but expiration as well.
10. Secure needle by best method available, recognizing that this method may be direct hands-on control of the device throughout the entire transport.
11. If unable to obtain an adequate airway, resume basic airway management and transport the patient as soon as possible
12. Regardless of success or failure of needle cricothyrotomy, notify the receiving hospital at the earliest possible time of a surgical airway emergency.
13. Document time/procedure/confirmation/change in patient condition/time on the patient care record (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Airway Orotracheal Intubation

P EMT- P P

Clinical Indications:

- An unconscious patient without a gag reflex who is apneic or is demonstrating inadequate respiratory effort.

Procedure:

1. Prepare all equipment and have suction ready.
2. Preoxygenate and hyperventilate the patient.
3. Open the patient's airway and holding the laryngoscope in the left hand, insert the blade into the right side of the mouth and sweep the tongue to the left.
4. Use the blade to lift the tongue and epiglottis (either directly with the straight blade or indirectly with the curved blade).
5. Once the glottic opening is visualized, slip the tube through the cords and continue to visualize until the cuff is past the cords.
6. Remove the stylet and inflate the cuff with 5-10cc of air (until no cuff leak).
7. Auscultate for bilaterally equal breath sounds and absence of sounds over the epigastrium. This should be repeated frequently and after movement or manipulation.
8. Confirm the placement using an end-tidal CO_2 or esophageal bulb device.
9. Secure the tube.
10. Document ETT size, time, result (success), and placement location by the centimeter marks either at the patient's teeth or lips on/with the patient care report (PCR). Document all devices used to confirm initial tube placement. Also document positive or negative breath sounds before and after each movement of the patient.

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Airway Respirator Operation

Clinical Indications:

P	EMT-P	P

- Transport of an intubated patient

Procedure:

1. Confirm the placement of tube as per airway protocol.
2. Ensure adequate oxygen delivery to the respirator device.
3. Preoxygenate the patient as much as possible with bag-valve mask.
4. Remove BVM and attach tube to respiration device.
5. Per instructions of device, set initial respiration values. For example, set an inspiratory:expiratory ratio of 1:4 (for every 1 second of inspiration, allow 4 seconds and expiration) with a rate of 12 to 20.
6. Assess breath sounds. Allow for adequate expiratory time. Adjust respirator setting as clinically indicated.
7. If any worsening of patient condition, decrease in oxygen saturation, or any question regarding the function of the respirator, remove the respirator and resume bag-valve mask ventilations.
8. Document time, complications, and patient response on the patient care report (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Airway Suctioning-Advanced

P	EMT-P	P

Clinical Indications:

- Obstruction of the airway (secondary to secretions, blood, or any other substance) in a patient currently being assisted by an airway adjunct such as a naso-tracheal tube, endotracheal tube, Combitube, tracheostomy tube, or a cricothyrotomy tube.

Procedure:

1. Ensure suction device is in proper working order.
2. Preoxygenate the patient as is possible.
3. Attach suction catheter to suction device, keeping sterile plastic covering over catheter.
4. Using the suprasternal notch and the end of the airway into the catheter will be placed as guides, measure the depth desired for the catheter (judgment must be used regarding the depth of suctioning with cricothyrotomy and tracheostomy tubes).
5. If applicable, remove ventilation devices from the airway.
6. With the thumb port of the catheter uncovered, insert the catheter through the airway device.
7. Once the desired depth (measured in #4 above) has been reached, occlude the thumb port and remove the suction catheter slowly.
8. Reattach ventilation device (e.g., bag-valve mask) and ventilate the patient
9. Document time and result in the patient care report (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Airway Suctioning-Basic

FR	FR	FR
B	EMT-B	B
I	EMT-I	I
P	EMT-P	P

Clinical Indications:

- Obstruction of the airway (secondary to secretions, blood, or any other substance) in a patient who cannot maintain or keep the airway clear.

Procedure:

1. Ensure suction device is in proper working order with suction tip in place.
2. Preoxygenate the patient as is possible.
3. Explain the procedure to the patient if they are coherent.
4. Examine the oropharynx and remove any potential foreign bodies or material which may occlude the airway if dislodged by the suction device.
5. If applicable, remove ventilation devices from the airway.
6. Use the suction device to remove any secretions, blood, or other substance.
7. The alert patient may assist with this procedure.
8. Reattach ventilation device (e.g., bag-valve mask) and ventilate or assist the patient
9. Record the time and result of the suctioning in the patient care report (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Airway-Ventilator Operation

Optional Skill

Clinical Indications:

P EMT-P P

- Management of the ventilation of a patient during a prolonged or interfacility transport of an intubated patient.

Procedure:

1. Transporting personnel should review the operation of the ventilator with the treating personnel (physician, nurse, or respiratory therapy) in the referring facility prior to transport if possible.
2. All ventilator settings, including respiratory rate, FiO2, mode of ventilation, and tidal volumes should be recorded prior to initiating transport. Additionally, the recent trends in oxygen saturation experienced by the patient should be noted.
3. Prior to transport, specific orders regarding any anticipated changes to ventilator settings as well as causes for significant alarm should be reviewed with the referring medical personnel as well as medical control.
4. Once in the transporting unit, confirm adequate oxygen delivery to the ventilator.
5. Assess breath sounds to assess for possible tube dislodgment during transfer.
6. Frequently assess the patient's respiratory status, noting any decreases in oxygen saturation or changes in tidal volumes, peak pressures, etc.
7. If any significant change in patient condition, including vital signs or oxygen saturation or there is a concern regarding ventilator performance/alarms, remove the ventilator from the endotracheal tube and use a bag-valve mask with 100% O2. Contact medical control immediately.
8. Note any changes in ventilator settings or patient condition in the PCR.

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Assessment-Adult

FR	FR	FR
B	EMT-B	B
I	EMT-I	I
P	EMT-P	P

Clinical Indications:

- Any patient requesting a medical evaluation that is too large to be measured with a Broselow-Luten Resuscitation Tape.

Procedure:

I. Primary Survey (Initial Assessment):

A. Airway-assess for patency of the airway and the possibility of spinal cord injury.
- Are there audible breath sounds?
- Can the airway be maintained by positioning?
- Are adjuncts such as an oral or nasal airway needed?

B. Breathing-assess for ventilatory distress
- Chest expansion-symmetrical?
- Breath sounds
- Rate and rhythm of respirations
- Use of accessory muscles

C. Circulation
- Heart rate and regularity; heart sounds
- Blood pressure
- Skin color and temperature
- Distal, peripheral, central pulses
- Hydration status

D. Disability
- Assess responsiveness
  - **A** Alert
  - **V** Responds to verbal stimuli
  - **P** Responds to painful stimuli
  - **U** Unresponsive
- Assess pupils
- Assess for numbness, tingling, etc.
- Glascow Score and RTS

E. Expose and Examine
- Expose the patient as necessary for the evaluation and treatment of illness/injury

II. Secondary Survey (Focused History/Physical Exam):

A. Patient History

- **S** Signs and symptoms
- **A** Allergies
- **M** Medications
- **P** Past medical history
- **L** Last oral intake
- **E** Events leading up to current incident/problem

B. Responsive, **Medical** Patient

- Perform a rapid assessment based on the chief complaint. A full review of systems may not be needed, **except** when the chief complaint is vague.
- Baseline vital signs
- **SAMPLE** history
- **OPQRST** if appropriate

C. Unresponsive, **Medical** Patient

- Perform a rapid head-to-toe assessment
- Baseline vital signs
- **SAMPLE** history

D. Trauma Patient, **No** Significant Injury

- Focused assessment based on specific injury
- Baseline vital signs
- **SAMPLE** history

E. Trauma Patient **With** Significant Injury

- Rapid head-to-toe assessment
- Baseline vital signs
- **SAMPLE** history

III. Detailed Assessment: Performed enroute; may be performed at the scene if transport is delayed.

A. Auscultation of breath and heart sounds

B. Inspection/palpation for the following:

- **D** Deformities
- **C** Contusions
- **A** Abrasions
- **P** Penetrations/punctures
- **B** Burns
- **L** Lacerations
- **S** Swelling/edema
- **T** Tenderness
- **I** Instability
- **C** Crepitus

IV. Ongoing Assessment: Repeated assessments done every 5 minutes on unstable patients and at least every 15 minutes on stable patients.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Assessment-Pediatric

FR	FR	FR
B	EMT-B	B
I	EMT-I	I
P	EMT-P	P

Clinical Indications:

- Any child that can be measured with the Broselow-Luten Resuscitation Tape.

Procedure:

I. General Approach

A. Modify the assessment to fit the age, size, and developmental level of the child.
B. Speak in a quiet tone of voice.
C. Use age appropriate terminology.
D. When possible, keep small children with their caregiver.
E. Make general observations before touching the child.
- General appearance
- Age appropriate behavior
- Obvious respiratory distress
- Obvious pain
- Level of consciousness
- Movement
- Color
- Obvious injuries

II. Primary Survey (Initial Assessment):

A. Airway-assess for patency and possible spinal cord injury
- Speech/cry
- Audible noises, such as stridor, gurgling, wheezing
- Can the airway be maintained by positioning?
- Are adjuncts such as an oral or nasal airway needed?
- Is suction needed?

B. Breathing-assess for ventilatory distress
- Rate, depth and rhythm of respirations
- Bilateral breath sounds
- Chest expansion-symmetrical?
- Use of accessory muscles; retractions
- Nasal flaring, gasping, grunting, etc.?
- Body positioning

C. Circulation

- Heart rate and regularity; heart sounds
- Blood pressure
- Skin color (Cyanosis, pallor, mottling) and temperature
- Hydration status (mucous membranes, skin turgor, tears, urinary output, anterior fontanel in infants)
- Distal, peripheral, central pulses

D. Disability
- Assess responsiveness
  - **A** Alert
  - **V** Responds to verbal stimuli
  - **P** Responds to painful stimuli
  - **U** Unresponsive
- Assess pupils
- Assess for numbness, tingling, etc.
- Glascow Score, RTS, Color code using Broselow-Luten tape

E. Expose and Examine
- Expose the patient as appropriate for age and severity of injury/illness
- Initiate measures to prevent heat loss

III. Secondary Survey (Focused History/Physical Exam):

A. Patient History
- **S** Signs and symptoms
- **A** Allergies
- **M** Medications
- **P** Past medical history
- **L** Last oral intake
- **E** Events leading up to current incident/problem

B. Responsive, **Medical** Patient
- Perform a rapid assessment based on the chief complaint. A full review of systems may not be needed, **except** when the chief complaint is vague.
- Baseline vital signs
- **SAMPLE** history
- **OPQRST** if appropriate

C. Unresponsive, **Medical** Patient
- Perform a rapid head-to-toe assessment
- Baseline vital signs
- **SAMPLE** history

D. Trauma Patient, **No** Significant Injury
- Focused assessment based on specific injury
- Baseline vital signs
- **SAMPLE** history

E. Trauma Patient **With** Significant Injury
- Rapid head-to-toe assessment

- Baseline vital signs
- **SAMPLE** history

IV. Detailed Assessment: Performed enroute; may be performed at the scene if transport is delayed.

A. Auscultation of breath and heart sounds
B. Inspection/palpation for the following:
   - **D** Deformities
   - **C** Contusions
   - **A** Abrasions
   - **P** Penetrations
   - **B** Burns
   - **L** Lacerations
   - **S** Swelling/edema
   - **T** Tenderness
   - **I** Instability
   - **C** Crepitus

V. Ongoing Assessment: Repeated assessments done every 5 minutes on unstable patients and at least every 15 minutes on stable patients.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Blood Glucose Analysis

I	EMT- I	I
P	EMT- P	P

Clinical Indications:

- Patients with suspected hypoglycemia (diabetic emergencies, change in mental status, bizarre behavior, etc.)

Procedure:

1. Gather and prepare equipment.
2. Place correct amount of blood on reagent strip or site on glucometer per the manufacturer's instructions.
3. Time the analysis as instructed by the manufacturer.
4. Document the glucometer reading and treat the patient as indicated by the analysis and protocol.
5. Repeat glucose analysis as indicated for reassessment after treatment and as per protocol.

Certification Requirements:

- Attend equipment inservices.
- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and the possible complications of the procedure.

Note:

- Machines must be checked for accuracy/calibration as per manufacturer's directions and/or quality assurance requirements.
- ***Procedure is limited to unconscious patients only for EMT-Intermediate.***

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Capnography

P EMT-P P

Clinical Indications:

- Capnography shall be used when available with all endotracheal or Combitube airways.

Procedure:

1. Attach capnography sensor to combitube or endotracheal tube.
2. Note CO_2 level and waveform changes. These will be documented on each respiratory failure or cardiac arrest patient.
3. The capnometer shall remain in place with the airway and be monitored throughout the prehospital care and transport.
4. Any loss of CO_2 detection or waveform indicates an airway problem and should be documented.
5. The capnogram should be monitored as procedures are performed to verify or correct the airway problem.
6. Document the procedure and results on/with the Patient Care Report (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and the possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Cardioversion

P EMT-P P

Clinical Indications:

- Unstable patient with a tachydysrhythmia (rapid atrial fibrillation, supraventricular tachycardia, ventricular tachycardia)
- Patient is not pulseless (the pulseless patient requires unsynchronized cardioversion, i.e., defibrillation)

Procedure:

1. Ensure the patient is attached properly to a monitor/defibrillator capable of synchronized cardioversion.
2. Have all equipment prepared for unsynchronized cardioversion/defibrillation if the patient fails synchronized cardioversion and the condition worsens.
3. Consider the use of pain or sedating medications.
4. Set energy selection to 50 joules.
5. Set monitor/defibrillator to synchronized cardioversion mode.
6. Make certain all personnel are clear of patient.
7. Press the button to cardiovert. Stay clear of the patient until you are certain the energy has been delivered. NOTE: It may take the monitor/defibrillator several cardiac cycles to "synchronize", so there may a delay between activating the cardioversion and the actual delivery of energy.
8. Note patient response and perform immediate unsynchronized cardioversion/defibrillation if the patient's rhythm has deteriorated into pulseless ventricular tachycardia/ventricular fibrillation, following the procedure for Defibrillation-Manual.
9. If the patient's condition is unchanged, repeat steps 2 to 8 above, using 100 joules in step 4.
10. If the patient has not improved after two attempts of cardioversion, contact medical control.
11. Note procedure, response, and time in the patient care report (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Chest Decompression

Optional Skill

Clinical Indications:

P EMT-P P

- Tension pneumothorax

Procedure:

1. Confirm presence of a tension pneumothorax or identify strong clinical evidence in a rapid deteriorating patient in the setting of major trauma. Consider in the setting of refractory PEA.
2. Locate the insertion site at the second intercostal space at the midclavicular line on the affected side of the chest.
3. Prep the insertion site.
4. Insert the 2 inch, 16 gauge angiocath (1¼ inch, 18 gauge angiocath in patients less than 8 years) with a 10cc syringe attached, by directing the needle just over the top of the third rib (2nd intercostal space) to avoid intercostal nerves and vessels which are located on the inferior rib borders.
5. Advance the catheter 1-2 inches (3/4 - 1 inch in patients less than 8 years) through the chest wall. Pull back on the plunger of the syringe as the needle is advanced. Tension should be felt until the needle enters the pleural space. A “pop” or “give” may also be felt. Do not advance the needle any further.
6. Withdraw the needle and advance the catheter until flush with the skin. Listen for a gush or “hiss” of air to confirm placement and diagnosis. Caution: this is frequently missed due to ambient noise.
7. Dispose of the needle properly and **never reinsert into the catheter**.
8. Secure the catheter and rapidly transport the patient providing appropriate airway assistance.

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Childbirth

FR	FR	FR
B	EMT-B	B
I	EMT-I	I
P	EMT-P	P

Clinical Indications:

- Imminent delivery with crowning

Procedure:

1. Delivery should be controlled so as to allow a slow controlled delivery of the infant. This will prevent injury to the mother and infant.
2. Support the infant's head as needed.
3. Check the umbilical cord surrounding the neck. If it is present, slip it over the head. If unable to free the cord from the neck, double clamp the cord and cut between the clamps.
4. Suction the airway with a bulb syringe.
5. Grasping the head with hands over the ears, gently pull down to allow delivery of the anterior shoulder.
6. Gently pull up on the head to allow delivery of the posterior shoulder.
7. Slowly deliver the remainder of the infant.
8. Clamp the cord 2 inches from the abdomen with 2 clamps and cut the cord between the clamps.
9. Record APGAR scores at 1 and 5 minutes.
10. Follow the **Newly Born Protocol** for further treatment.
11. The placenta will deliver spontaneously, usually within 5 minutes of the infant. Do not force the placenta to deliver.
12. Massaging the uterus may facilitate delivery of the placenta and decrease bleeding by facilitating uterine contractions.
13. Continue rapid transport to the hospital.

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and the possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Cardiopulmonary Resuscitation (CPR)

FR	FR	FR
B	EMT-B	B
I	EMT-I	I
P	EMT-P	P

Clinical Indications:

- Basic life support for the patient in cardiac arrest

Procedure:

1. Assess the patient's level of responsiveness (shake and shout)
2. If no response, open the patient's airway with the head-tilt, chin-lift and look, listen, and feel for respiratory effort. If the patient may have sustained C-spine trauma, use the modified jaw thrust while maintaining immobilization of the C-spine. For infants, positioning the head in the sniffing position is the most effective method for opening the airway
3. If no respiratory effort, give two rescue breaths via mouth-to-mouth or appropriately sized BVM (infant, child, adult).
4. Check for pulse (carotid for adults and older children, brachial for infants) for at least 10 seconds.
5. If no pulse, begin chest compressions based on chart below:

Age	Location	Depth	Rate
Infant	Over sternum, between nipples (inter-mammary line), 2-3 fingers	0.5 to 1 inch (1/3 the anterior-posterior chest dimension)	At least 100/minute
Child	Over sternum, just cephalad from xyphoid process, heel of one hand	1 to 1.5 inches (1/3 the anterior-posterior chest dimension)	80 to 100/minute
Adult	Over sternum, just cephalad from xyphoid process, hands with interlocked fingers	1.5 to 2 inches (1/3 the anterior-posterior chest dimension)	80 to 100 minute

6. Provide at least 8 to 10 breaths per minute with the BVM.
7. Reassess for pulse every 1 to 2 minutes.
8. Document the time and procedure in the Patient Care Report (PCR)

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and the possible complications of the procedure.

Mississippi Emergency Medical Services

Standards Procedure (Skill)

Defibrillation- Fully Automatic

FR	FR	FR
B	EMT-B	B
I	EMT-I	I
P	EMT-P	P

Clinical Indications:

- Victim is unresponsive, apneic, and pulse less
- Victim is at least eight years old
- Victim is not a trauma case
- Victim is not a known DNR

Procedure for Two Man Rescue:

1. Take standard precautions for body substance protection.
2. Assess scene safety.
3. Establish unresponsiveness.
4. Call for an AED and ALS level personnel if not already on the scene.
5. Open airway and assess breathing.
6. If the patient is not breathing, administer two (2) breaths using a barrier device.
7. Check for a carotid pulse.
8. If no pulse, one rescuer should start CPR while the other rescuer applies the AED.
   - **A fully automated device that is attached to the patient and turned on will automatically analyze rhythms and deliver shocks without operator assistance. Some models only have two control buttons: one for "on" and one for "off." The device will give visual/auditory commands as it goes through the process and will instruct the rescuer when to check pulse, perform one minute of CPR etc.**
   - **After three shocks have been delivered or rhythm analysis indicates no shock is advised, the device will give a command to check breathing and pulse. At this time, the device will go in to a monitoring mode.**
   - **If there is no pulse, resume CPR for one minute. Leave the AED attached. After one minute, the AED will give a command to stop CPR. It will again analyze rhythm and deliver up to three more shocks.**
   - **Remain clear of the device while it is in the analyzing and/or shocking modes.**
   - **Most fully automated devices will not deliver more than two stacked sets of shocks without operator assistance.**
9. If the patient regains a pulse at any time during resuscitation, maintain the airway and assist ventilations. Apply high concentration oxygen by nonrebreather mask Do not remove AED electrode pads.
10. If the patient regains both pulse and breathing, place in the recovery position. Continue to monitor the patient. Do not remove AED electrode pads.
11. Transport to the nearest receiving facility.

12. Complete all necessary documentation. Leave a copy of the patient care report at the receiving facility.
13. It is advisable to perform a full maintenance check after AED use. At minimum, remove and replace the AED battery, and do a Battery Insertion Test prior to putting the AED back into service. Restock supplies.

Procedure for Unassisted Rescue with Fully Automatic AED:

1. Take standard precautions for body substance protection.
2. Assess scene safety.
3. Establish unresponsiveness.
4. Call 911 and get the AED.
5. Open the airway and assess breathing
6. If not breathing, give two (2) breaths using a barrier device.
7. Check for a carotid pulse.
8. If pulse is absent, apply AED and follow the remainder of the two-man procedure.
9. If an AED is not available, perform CPR until ALS arrives.

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Emergency Medical Services

Standards Procedure (Skill)

Defibrillation-Manual

I	EMT- I	I
P	EMT- P	P

Clinical Indications:

- Cardiac arrest with ventricular fibrillation or pulseless ventricular tachycardia

Procedure:

1. Clinically confirm the diagnosis of cardiac arrest and identify the need for defibrillation.
2. After application of an appropriate conductive agent if needed, apply defibrillation paddles or hands free pads to the patient's chest in the proper position (right of sternum at 2nd ICS and anterior axillary line at 5th ICS).
3. Set the appropriate energy level (adult - 200, 300, 360 joules; peds - 2 joules/kg initially with repeat at 4 joules/kg) for monophasic devices.
4. Charge the defibrillator to the selected energy level.
5. Assure proper placement of the paddles or pads.
6. Assure proper contact by applying 25 pounds of pressure on each paddle or make sure fast patch pads have good skin contact.
7. **Assertively state, "CLEAR" and visualize that no one, including yourself, is in contact with the patient.**
8. Deliver the countershock by depressing the discharge button(s) when using paddles, or depress the **shock button** for hands free operation.
9. Assess the patient's response.
10. Document the dysrhythmia and the response to defibrillation with ECG strips on/with the PCR.
11. Repeat the procedure as indicated by patient response and ECG rhythm.

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Emergency Medical Services

Standards Procedure (Skill)

Defibrillation-Semiautomatic

Clinical Indications:

- Victim is unresponsive, apneic, and pulse less
- Victim is at least eight years old
- Victim is not a trauma case
- Victim is not a known DNR

FR	FR	FR
B	EMT-B	B
I	EMT-I	I
P	EMT-P	P

Procedure for Two Man Rescue:

1. Take standard precautions for body substance protection.
2. Assess scene safety.
3. Establish unresponsiveness.
4. Call for an AED and ALS level personnel if not already on the scene.
5. Open airway and assess breathing.
6. If the patient is not breathing, administer two (2) breaths using a barrier device.
7. Check for a carotid pulse.
8. If no pulse, one rescuer should start CPR while the other rescuer applies the AED.
    - **Power On the AED unit**. On some models, simply opening the lid will power on the AED. If the AED is equipped with a voice recorder, begin the narrative, but do not delay subsequent steps to do so.
    - **Attach the AED electrode pads to the victim's bare chest**
    - **Press Analyze** (Do not touch the patient while analyzing rhythm)
    - **Follow AED verbal/visual prompts**

AED Prompt "Shock Advised"

- Announce, "stand clear" and do a visual head to toe check to make sure everyone is clear of contact.
- Press **shock** to defibrillate.
- Allow AED to reanalyze and shock if indicated up to three shocks.
- Reassess pulse after three shocks.
- If no pulse, perform CPR for one minute
- Check again for a pulse. If no pulse, repeat the steps for another set of 3-stacked shocks.

AED Prompt "No Shock Advised"

- Check for a pulse.
- If no pulse, perform CPR.
- Leave the AED attached and reanalyze every 1-2 minute. Stop CPR efforts when the AED is analyzing.

9. If the patient regains a pulse at any time during resuscitation, maintain the airway and assist ventilations. Apply high concentration oxygen by nonrebreather mask Do not remove AED electrode pads.
10. If the patient regains both pulse and breathing, place in the recovery position. Continue to monitor the patient. Do not remove AED electrode pads.
11. Transport to the nearest receiving facility.
12. Complete all necessary documentation. Leave a copy of the patient care report at the receiving facility.
13. It is advisable to perform a full maintenance check after AED use. At minimum, remove and replace the AED battery, and do a Battery Insertion Test prior to putting the AED back into service. Restock supplies.

Procedure for Unassisted Rescue with Semiautomatic AED:

1. Take standard precautions for body substance protection.
2. Assess scene safety.
3. Establish unresponsiveness.
4. Call 911 and get the AED.
5. Open the airway and assess breathing
6. If not breathing, give two (2) breaths using a barrier device.
7. Check for a carotid pulse.
8. If pulse is absent, apply AED and follow the remainder of the two-man procedure.
9. If an AED is not available, perform CPR until ALS arrives.

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Emergency Medical Services
Standards Procedure

Epinephrine Auto Injector

Clinical Indications:

- A patient must meet all of the following criteria:
  - Exhibits signs and symptoms of a severe allergic reaction, including either respiratory distress or shock (hypoperfusion).
  - Medication is prescribed for this patient by a physician (First Responder and EMT-Basic)
  - Medical Direction authorizes use for this patient.

Suspect an allergic reaction whenever:

The patient has come in contact with a substance that has cuased an allergic reaction in the past and

The patient complains of itching, hives, or difficulty breathing (respiratory distress), or shows signs or symptoms of shock (hypoperfusion).

Procedure:

1. First always take Body Substance Isolation.
2. Patient suffers from a severe allergic reaction.
3. Perform initial assessment. Provide high concentration oxygen by non-rebreather mask.
4. Perform a focused history and physical exam. Obtain SAMPLE history.
5. Take patient's vital signs.
6. Ascertain if patient has a prescribed auto-injector. Check to be sure injector is prescribed for this patient. Check expiration date. Check for cloudiness or discoloration is liquid is visible. Contact Medical Direction.
7. If medical Direction orders use of the epinephrine auto-injector, prepare if for use. Remove safety cap.
8. Press the injector against the patient's thigh (lateral portion of thigh, midway between waist and knee) to trigger release of the spring-loaded needle and inject the dose of epinephrine into the patient. Hold the injector in place until the medication is injector (at least 10 seconds).
9. Dispose of the used injector in a portable biohazard container.
10. Document patient's response to the medication. Record activity and time.
11. Perform the ongoing assessment, paying special attention to the patient's ABCs and vital signs, en route to the hospital.

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique and possible complications of the procedure.

Mississippi Emergency Medical Services

Standards Procedure (Skill)

External Cardiac Pacing

Optional Skill

P EMT-P P

Clinical Indications:

- Patients with symptomatic bradycardia after no response to atropine or primary treatment if unable to start an IV.
- Pediatric patients requiring external transcutaneous pacing require the use of pads appropriate for pediatric patients per the manufacturers guidelines.
- If used in asystole, it must be used early.

Procedure:

1. Oxygen, ECG monitor, IV (if possible) should be in place prior to pacing.
2. Confirm the presence of the dysrhythmia (include a copy of the ECG strip) and evaluate the patient's hemodynamic status.
3. Adjust the QRS amplitude so the machine can sense the intrinsic QRS activity.
4. Apply pacing pads to the patient's chest in either of the following positions - anterior-anterior or anterior-posterior.
5. Attach the pacing pads to the therapy cable from the machine.
6. Turn the pacer on.
7. Observe the ECG screen for a "sense" marker on each QRS complex. If a "sense" marker is not present, readjust ECG size or select another lead.
8. Set the desired pacing rate (60-80) .
9. Start at the lowest setting and increase the current slowly while observing the ECG screen for evidence of electrical pacing capture.
10. Assess the patient's response to the pacing therapy.
11. Consider the use of sedation or analgesia if patient is uncomfortable.
12. Document the dysrhythmia and the response to external pacing with ECG strips.

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Emergency Medical Services

Standards Procedure (Skill)

Injections-Subcutaneous, Intramuscular

Clinical Indications:

- When medication administration is necessary and the medication must be given via the SQ or IM route or as an alternative route in selected medications.

P EMT- P P

Procedure:

1. Receive and confirm medication order or perform according to standing orders.
2. Prepare equipment and medication expelling air from the syringe.
3. Explain the procedure to the patient and reconfirm patient allergies.
4. The most common site for subcutaneous injection is the arm. Injection volume should not exceed 1 cc.
5. The possible injection sites for intramuscular injection include the arm, buttock and thigh. Injection volume should not exceed 1 cc for the arm and not more than 2 cc in the thigh or buttock.
6. The thigh should be used for injections in pediatric patients and injection volume should not exceed 1 cc.
7. Expose the selected area and cleanse the injection site with alcohol.
8. Insert the needle into the skin with a smooth, steady motion

   SQ: 45-degree angle skin pinched **IM: 90-degree angle skin flattened**
9. Aspirate for blood
10. Inject the medication.
11. Withdraw the needle quickly and dispose of properly without recapping.
12. Apply pressure to the site.
13. Monitor the patient for the desired therapeutic effects as well as any possible side effects.
14. Document the medication, dose, route, and time on/with the patient care report (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Emergency Medical Services

Standards Procedure (Skill)

Intravenous (IV) Therapy - Venous Access Extremity

No Meds			Meds		
I	EMT - I	I	P	EMT - P	P

Clinical Indications:

- Hydration/replace fluid loss
- Administer medications
- Obtain venous blood specimens
- Any patient where intravenous access is indicated (significant trauma or mechanism, emergent or potentially emergent medical condition).

Procedure:

1. Inspect the IV solution for expiration date, cloudiness, discoloration, leaks, or the presence of particles.
2. Connect IV tubing to the solution in a sterile manner. Fill the drip chamber half full and then flush the tubing bleeding all air bubbles from the line.
3. Place a tourniquet around the patient's extremity to restrict venous flow only.
4. Select a vein and an appropriate gauge catheter for the vein and the patient's condition.
5. Prep the skin with an antiseptic solution.
6. Insert the needle with the bevel up into the skin in a steady, deliberate motion until the bloody flashback is visualized in the catheter.
7. Advance the catheter into the vein. **Never** reinsert the needle through the catheter. Dispose of the needle into the proper container without recapping.
8. Draw blood samples when appropriate.
9. Remove the tourniquet and connect the IV tubing or saline lock.
10. Open the IV to assure free flow of the fluid and then adjust the flow rate as per protocol or as clinically indicated.
11. Cover the site with a sterile dressing and secure the IV and tubing.
12. Label the IV with date and time, catheter gauge, and name and title of the person starting the IV.
13. Document the procedure, time and result (success) on/with the patient care report (PCR).

IV Sites:

- The dorsal aspect of the hand, the antecubital fossa, and the forearm are the sites of choice for peripheral venous access. If these sites are unavailable, refer to specific procedures for Jugular Access and Intraosseous Access.

IV Solutions:

- Solutions should be addressed through specific protocols, standing orders, and/or Medical Control. Generally, Normal Saline (0.9% Sodium Chloride) is the solution of choice for prehospital use.

Flow Rates:

- **To Keep Open (TKO)** – slow infusion rate used prophylactically or for medication administration.
- **Wide Open** – used for rapid administration in situations where volume replacement is crucial.

IV Bolus

- In cases of hypovolemia, it may be necessary to administer a large volume of fluid rapidly to maintain the patient's blood pressure and/or desired effect. It is important to follow protocol, standing orders, and/or Medical Control direction in these situations.
- **Adult Patient** - Generally, 250cc of Normal Saline should be infused at a wide open rate, followed by patient assessment including blood pressure. Repeated bolus infusions may be necessary until the desired effect is achieved.
- **Pediatric Patient** – Generally, fluid volume is calculated at 20cc/Kg.
- **Neonate** – Generally, fluid volume is calculated at 10cc/Kg.

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and the possible complications of the procedure.

Mississippi Emergency Medical Services

Standards Procedure (Skill)

MAST

B	EMT - B	B
I	EMT- I	I
P	EMT- P	P

Clinical Indications:

- Suspected pelvic or long bone leg injury.

Clinical Contraindications:

- **Absolute:** Pulmonary edema or congestive heart failure
- **Relative:** Extensive chest trauma
  Central nervous system injury
  Pregnancy (do not inflate abdominal compartment)

Procedure:

1. Record the patient's vital signs.
2. Unfold the MAST suit and lay flat on the spine board.
3. Carefully slide the MAST suit with the spine board under patient maintaining spinal immobility.
4. Close the leg compartments around each leg.
5. Close the abdominal compartment.
6. Attach the air tubes to the connections on the MAST suit and open all valves.
7. Inflate the legs first and the abdomen last.
8. Inflate the MAST suit with enough air to provide adequate splinting without compromise of neurovascular status distally in the lower extremities.
9. Close the valves on the MAST suit.
10. Monitor the amount of air in the MAST suit and monitor patient status.
11. Document the procedure and time on/with the patient care report (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Emergency Medical Services
Standards Procedure (Skill)

Assist with Administration of Nitro

B	EMT - B	B
I	EMT- I	I
P	EMT- P	P

Clinical Indications:

- Patient complains of chest pain.
- Patient has a history of cardiac problems.
- Patient's physician has prescribed nitroglycerin (NTG).
- Systolic Blood Pressure is greater than 100 mmHg.
- Medical Direction authorizes administration of the medication.

Procedure:

1. Perform focused assessment for cardiac patient.
2. Obtain baseline vital signs. (Systolic blood pressure must be above 100 mmHg.)
3. Contact medical direction, if no standing orders.
4. Assure right medication, right patient, right dose, right route. Check expiration date.
5. Assure patient is alert.
6. Question patient on last dose taken and effects. Assure understanding of route of administration.
7. Ask patient to life tongue, and place tablet or spray dose under tongue (while taking BSI precautions) or have patient place tablet or spray under tongue.
8. Have patient keep mouth closed with tablet under tongue (without swallowing) until dissolved and absorbed.
9. Reassess vital signs within 2 minutes.
10. Record administration, route, time and effects.
11. Reassess patient.

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Oral Glucose Administration

Clinical Indications:

- A patient must meet all of the following criteria:
  - Patient has a history of diabetes
  - Patient's mental status is altered
  - Patient is awake enough to swallow.

Suspect a diabetic emergency when the following signs or symptoms are present:

* Rapid onset of altered mental status
  1. after missing a meal on a day the patient took prescribed insulin
  2. after vomiting a meal on a day the patient took prescribed insulin
  3. after an unusual amount of physical exercise or work
  4. may occur with no identifiable predisposing factor.
* Intoxicated appearance, staggering, slurred speech, to unconsciousness
* Elevated Heart Rate
* Cold, clammy Skin
* Hunger
* Seizures
* Uncharacteristic behavior
* Anxiety
* Combativeness

Procedure:

1. Perform an initial assessment. Determine is patient's mental status is altered.
2. Obtain patient's history. Does patient have a history of Diabetes? (May have a medical alert tag.)
3. Perform a focused history and physical exam and take patient's vital signs.
4. To administer oral glucose to a patient who is awake enough to swallow, squeeze glucose from tube onto tongue depressor.
5. Insert the tongue depressor and oral glucose into patient's mouth between the cheek and gum.
6. Alternatively, let patient squeeze the oral glucose into her mouth.
7. If patient is conscious, have him/her remove tongue depressor. Reassess patient.
8. Document patient's response to the medication. Record activity and time.
9. If patient loses consciousness, remove tongue depressor. Reassess patient.
10. Transport and provide ongoing assessment.

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique and possible complications of the procedure.

Mississippi Emergency Medical Services

Standards Procedure (Skill)

Orthostatic Blood Pressure Measurement

I	EMT- I	I
P	EMT- P	P

Clinical Indications:

- Patient situations with suspected blood / fluid loss / dehydration.
- Patients ≥ 8 years of age, or patients larger than the Broselow-Luten tape

Procedure:

1. Assess the need for orthostatics.
2. Obtain patient's pulse and blood pressure while supine.
3. Have patient stand for one minute.
4. Obtain patient's pulse and blood pressure while standing.
5. If pulse has increased by 20 BPM **or** systolic blood pressure decreased by 20 mmHg, the orthostatics are considered positive.
6. If patient is unable to stand, orthostatics may be taken while the patient is sitting with feet dangling.
7. If positive orthostatic changes occur while sitting, **DO NOT** continue to the standing position.
8. Document the time and vital signs for supine and standing positions on/with the patient care report (PCR).
9. Determine appropriate treatment based on protocol.

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Emergency Medical Services
Standards Procedure (Skill)

Oxygen Therapy

Clinical Indications:

- Patients experiencing any of the following:
  - Respiratory or Cardiac Arrest
  - Heart Attack or Stroke
  - Shock
  - Blood Loss
  - Lung Diseases
  - Broken Bones or Head Injury

Procedure:

1. If the patient is not breathing adequately on his/her own, the treatment should be ventilation, not just oxygen. A nasal cannula without a breath is a waste of oxygen!
2. A small percentage of patients with chronic lung disease breathe because they are hypoxic. Administration of oxygen will shut off their respiratory drive. DO NOT WITHHOLD OXYGEN BECAUSE OF THIS POSSIBILITY. BE PREPARED TO ASSIST VENTILATION IF NEEDED. Initial oxygen flow should be 2 l/min. or 1l/min greater than home O2 in these patients.

Administering Oxygen

1. Explain to patient the need for oxygen.
2. Open main valve and adjust flow-meter.
3. Place oxygen delivery device.
4. Adjust flow-meter.
   a. Low Flow (Nasal Cannula - 1-6 l/min.)
   Patients with chronic lung disease
   b. High Flow (Non-rebreather Mask -10-15 l/min.)
   Severe respiratory distress, CO Poisoning, Smoke inhalation, Chest pain, moderate respiratory distress
5. Secure during transfer.

Discontinuing Oxygen

1. Remove delivery device.
2. Close main valve.
3. Remove delivery tubing.
4. Bleed flow-meter.

Mississippi Emergency Medical Services
Standards Procedure (Skill)

Oxygen Therapy

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique and possible complications of the procedure.

Mississippi Emergency Medical Services

Standards Procedure (Skill)

Pain Assessment and Documentation

FR	FR	FR
B	EMT-B	B
I	EMT-I	I
P	EMT-P	P

Clinical Indications:

- Any patient with pain.

Definitions:

- Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage.
- Pain is subjective (whatever the patient says it is).

Procedure:

1. Initial and ongoing assessment of pain intensity and character is accomplished through the patient's self report.
2. Pain should be assessed and documented during initial assessment, before starting pain control treatment, and with each set of vitals.
3. Pain should be assessed using the appropriate approved scale.
4. Two pain scales are available: the 0 - 10 and the Wong - Baker "faces" scale.

5. 0 – 10 Scale: the most familiar scale used by EMS for rating pain with patients. It is primarily for adults and is based on the patient being able to express their perception of the pain as related to numbers. Avoid coaching the patient, simply ask them to rate their pain on a scale from 0 to 10, where 0 is no pain at all and 10 is the worst pain ever.

6. Wong – Baker "faces" scale: this scale is primarily for use with pediatrics but may also be used with geriatrics or any patient with a language barrier. The faces correspond to numeric values from 0-10. This scale can be documented with the numeric value or the textual pain description.

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Prescribed Inhaler Administration

Clinical Indications:

- The patient has the indications for use of an inhaler: signs and symptoms of breathing difficulty and an inhaler prescribed by a physician.
- Signs and Symptoms of breathing difficulty include:
    - Increased/Decreased heart rate (Usually decreased in infants and children. Indicative of a SEVERE respiratory emergency.)
    - Changes in breathing rate or rhythm
    - Pale, cyanotic or flushed skin
    - Noisy breathing (i.e. audible wheezing, gurgling, snoring, crowing, stridor)
    - Inability to speak full sentences
    - Use of accessory muscles to breathe/ Retractions
    - Altered Mental Status
    - Coughing, pursed lips, flared nostrils
    - Patient positioning (i.e. tripod position)

Procedure:

1. The patient has the indications for use of an inhaler (above).
2. The EMT-Basic contacts Medical Control and obtains an order to assist the patient with the prescribed inhaler.
3. Assure right patient, right medication, right dose, right route, patient alert enough to use inhaler.
4. Check expiration date of inhaler.
5. Check if patient has already taken any doses.
6. Remove Oxygen from patient.
7. The EMT-Basic coaches the patient in use of the inhaler:
    a. Assures inhaler is at room tempature or warmer.
    b. Shake inhaler vigorously several times.
    c. Have patient exhale deeply.
    d. Have patient put his/her lips around the opening of the inhaler.
    e. Have patient depress the hand-held inhaler as he/she begins to inhale deeply.
    f. Instruct patient to hold his/her breath for as long as she comfortably can so medication can be absorbed.
8. Place Oxygen back on patient.
9. Allow patient to breathe a few times and repeat second dose if so ordered by Medical Direction.
10. If patient has a spacer device for use with inhaler, it should be used.

11. Reassess patient: vital signs, focused exam paying special attention to breathing adequacy.

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique and possible complications of the procedure.

Mississippi Emergency Medical Services

Standards Procedure (Skill)

Pulse Oximetry

P EMT- P P

Clinical Indications:

- Patients with suspected hypoxemia.

Procedure:

1. Turn the machine on and allow for self-tests.
2. Apply probe to patient's finger or any other digit as recommended by the device manufacturer.
3. Allow machine to register saturation level.
4. Record time and initial saturation percent on room air if possible on/with the patient care report (PCR).
5. Verify pulse rate on machine with actual pulse of the patient.
6. Monitor critical patients continuously until arrival at the hospital. If recording a one-time reading, monitor patients for a few minutes as oxygen saturation can vary.
7. Document percent of oxygen saturation every time vital signs are recorded and in response to therapy to correct hypoxemia.
8. In general, normal saturation is 97-99%. Below 94%, suspect a respiratory compromise.
9. Use the pulse oximetry as an added tool for patient evaluation. Treat the patient, not the data provided by the device.
10. The pulse oximeter reading should never be used to withhold oxygen from a patient in respiratory distress or when it is the standard of care to apply oxygen despite good pulse oximetry readings, such as chest pain.
11. Factors which may reduce the reliability of the pulse oximetry reading include:
    (a) Poor peripheral circulation (blood volume, hypotension, hypothermia)
    (b) Excessive pulse oximeter sensor motion
    (c) Fingernail polish (may be removed with acetone pad)
    (d) Carbon monoxide bound to hemoglobin
    (e) Irregular heart rhythms (atrial fibrillation, SVT, etc.)
    (f) Jaundice

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Emergency Medical Services

Standards Procedure (Skill)

Restraints

Clinical Indications:

- Patients with actual or potential threat to self or others.

B	EMT- B	B
I	EMT- I	I
P	EMT- P	P

Procedure:

1. Evaluate the need for restraints. Restraints should be considered only as a last resort after verbal techniques have failed.
2. Request law enforcement assistance and **Contact Medical Control**.
3. The least amount of restraint necessary to accomplish the desired purpose should be used.
4. The restraints should not be limiting to the patient's peripheral or central circulation or respiratory status.
5. Soft restraints such as cravats or roller bandages can be used for extremity restraints. Sheets may be used to limit upper body or lower extremity movement.
6. The restraints should be frequently monitored during transport. Neurovascular status of restrained parts should be assessed.
7. Documentation on/with the patient care report (PCR) should include the reason for the use of restraints, the type of restraints used, and the time restraints were placed. Complete and attach the Restraint checklist.

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Division of Emergency Medical Services

Standards Procedure (Skill)

Scene Safety/Scene Size-Up

FR	FR	FR
B	EMT-B	B
I	EMT-I	I
P	EMT-P	P

Clinical Indications:

- All emergency situations

Procedure:

1. Review dispatch information.
2. Initiate Body Substance Isolation precautions.
3. Determine scene safety.
    - Scan the scene to determine the extent of the incident.
    - Identify the number of people injured.
    - Identify hazards and possible exits.
    - Protect self, patient, and any bystanders
4. Establish control of the scene.
5. Determine the mechanism of injury/nature of illness.
6. Identify the need for additional resources and call for whatever assistance is needed.
7. Consider the need for cervical stabilization.

Mississippi Emergency Medical Services

Standards Procedure (Skill)

Spinal Immobilization

FR	FR	FR
B	EMT-B	B
I	EMT-I	I
P	EMT-P	P

Clinical Indications:

- Need for spinal immobilization as determined by protocol

Procedure:

1. Gather a backboard, straps, C-collar appropriate for patient's size, tape, and head rolls or similar device to secure the head.
2. Explain the procedure to the patient.
3. Assess pulse, motor and sensory function before and after immobilization.
4. Place the patient in an appropriately sized C-collar while maintaining in-line stabilization of the C-spine. This stabilization, to be provided by a second rescuer, should not involve traction or tension but rather simply maintaining the head in a neutral, midline position while the first rescuer applied the collar.
5. Once the collar is secure, the second rescuer should still maintain their position to ensure stabilization. The collar is helpful but will not do the job by itself.
6. Place the patient on a long spine board with the log-roll technique if the patient is supine or prone. For the patient in a vehicle or otherwise unable to be placed prone or supine, place them on a backboard by the safest method available that allows maintenance of in-line spinal stability.
7. Stabilize the patient with straps and head rolls/tape or other similar device. Once the head is secured to the backboard, the second rescuer may release manual in-line stabilization.
8. NOTE: Some patients, due to size or age, will not be able to be immobilized through in-line stabilization with standard backboards and C-collars. Never force a patient into a non-neutral position to immobilize them. Such situations may require a second rescuer to maintain manual stabilization throughout the transport to the hospital.
9. Document the time of the procedure in the patient care report (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and the possible complications of the procedure.

Mississippi Emergency Medical Services

Standards Procedure (Skill)

Splinting

FR	FR	FR
B	EMT-B	B
I	EMT-I	I
P	EMT-P	P

Clinical Indications:

- Immobilization of an extremity for transport, either due to suspected fracture, sprain, or injury.
- Immobilization of an extremity for transport to secure medically necessary devices such as intravenous catheters

Procedure:

1. Assess and document pulses, sensation, and motor function prior to placement of the splint. If no pulses are present and a fracture is suspected, consider reduction of the fracture prior to placement of the splint.
2. Remove all clothing from the extremity.
3. Select a site to secure the splint both proximal and distal to the area of suspected injury, or the area where the medical device will be placed.
4. Do not secure the splint directly over the injury or device.
5. Place the splint and secure with Velcro, straps, or bandage material (e.g., kling, kerlex, cloth bandage, etc.) depending on the splint manufacturer and design.
6. Document pulses, sensation, and motor function after placement of the splint. If there has been a deterioration in any of these 3 parameters, remove the splint and reassess
7. If a femur fracture is suspected and there is no evidence of pelvic fracture or instability, the following procedure may be followed for placement of a femoral traction splint:
    a. Assess neurovascular function as in #1 above.
    b. Place the ankle device over the ankle.
    c. Place the proximal end of the traction splint on the posterior side of the affected extremity, being careful to avoid placing too much pressure on genitalia or open wounds. Make certain the splint extends proximal to the suspected fracture. If the splint will not extend in such a manner, reassess possible involvement of the pelvis
    d. Extend the distal end of the splint at least 6 inches beyond the foot.
    e. Attach the ankle device to the traction crank.
    f. Twist until moderate resistance is met.
    g. Reassess alignment, pulses, sensation, and motor function. If there has been deterioration in any of these 3 parameters, release traction and reassess.
8. Document the time, type of splint, and the pre and post assessment of pulse, sensation, and motor function in the patient care report (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and the possible complications of the procedure.

Cincinnati Stroke Scale

Clinical Indications:

- Suspected Stroke Patient.

Procedure:

1. Assess and treat suspected stroke patients as per protocol.
2. The Cincinnati Stroke Scale

Certification Requirements:

Cincinnati Stroke Scale

Facial Droop

- *Normal*: Both sides of face move equally
- *Abnormal*: One side of face does not move at all

Arm Drift

- *Normal*: Both arms move equally or not at all
- *Abnormal*: One arm drifts compared to the other

Speech

- *Normal*: Patient uses correct words with no slurring
- *Abnormal*: Slurred or inappropriate words or mute

Mississippi Emergency Medical Services

Standards Procedure (Skill)

Temperature Measurement

FR	FR	FR
B	EMT-B	B
I	EMT-I	I
P	EMT-P	P

Clinical Indications:

- Monitoring body temperature in a patient with suspected infection, hypothermia, hyperthermia, or to assist in evaluating resuscitation efforts.

Procedure:

1. If clinically appropriate, allow the patient to reach equilibrium with the surrounding environment. For example, the temperature of a child or infant that has been heavily bundled is often inaccurate, so “unbundle” the child for 3 to 5 minutes before obtaining temperature.
2. For adult patients that are conscious, cooperative, and in no respiratory distress, an oral temperature is preferred (steps 3 to 5 below). For infants or adults that do not meet the criteria above, a rectal temperature is preferred (steps 6 to 8 below).
3. To obtain an oral temperature, ensure the patient has no significant oral trauma and place the thermometer under the patient’s tongue with appropriate sterile covering.
4. Have the patient seal their mouth closed around thermometer.
5. If using an electric thermometer, leave the device in place until there is indication an accurate temperature has been recorded (per the “beep” or other indicator specific to the device). If using a traditional thermometer, leave it in place until there is no change in the reading for at least 30 seconds (usually 2 to 3 minutes). Proceed to step 9.
6. Prior to obtaining a rectal temperature, assess whether the patient has suffered any rectal trauma by history and/or brief examination as appropriate for patient’s complaint.
7. To obtain a rectal temperature, cover the thermometer with an appropriate sterile cover, apply lubricant, and insert into rectum no more than 1 to 2 cm beyond the external anal sphincter.
8. Follow guidelines in step 5 above to obtain temperature.
9. Record time, temperature, method (oral, rectal), and scale (C° or F°) in Patient Care Report (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and the possible complications of the procedure.

Mississippi Emergency Medical Services

Standards Procedure (Skill)

Thrombolytic Screen

P EMT- P P

Clinical Indications:

- Rapid evaluation of a patient with suspected acute stroke, acute myocardial infarction, or acute pulmonary embolus that may be benefit from thrombolysis.

Procedure:

1. Follow the appropriate protocol for patient's complaint to assess need for thrombolysis (e.g., Los Angles Pre-hospital stroke screen or other instrument for suspected stroke, 12-lead EKG for suspected myocardial infarction, etc.). If the screen is positive, proceed to step 2 below.
2. By history from the patient and/or family members, obtain and record the following information:
   - History of active internal bleeding?
   - History of CNS neoplasm, arteriovenous (AV) malformation, or CNS aneurysm?
   - History of CNS surgery in past 2 months?
   - History of severe, uncontrolled hypertension (>200/130)?
   - History of bleeding disorder?
   - History of aortic dissection?
   - History of allergy to tPA?
3. Record all findings in the Patient Care Report (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and the possible complications of the procedure.

Mississippi Emergency Medical Services

Standards Procedure (Skill)

Venous Access-Blood Draw

Clinical Indications:

- Collection of a patient's blood for laboratory analysis

P EMT- P P

Procedure:

1. Utilize universal precautions as per OHSA.
2. Select vein and prep as usual.
3. Select appropriate blood-drawing devices.
4. Draw appropriate tubes of blood for lab testing.
5. Assure that the blood samples are labeled with the correct information (a minimum of the patients name, along with the date and time the sample was collected).
6. Deliver the blood tubes to the appropriate individual at the hospital.

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and the possible complications of the procedure.

Mississippi Emergency Medical Services

Standards Procedure (Skill)

Venous Access-External Jugular Access

P EMT- P P

Clinical Indications:

- External jugular vein cannulation is indicated in a critically ill patient ≥ 8 years of age who requires intravenous access for fluid or medication administration and in whom an extremity vein is not obtainable.
- External jugular cannulation can be attempted initially in life threatening events where no obvious peripheral site is noted.

Procedure:

1. Place the patient in a supine head down position. This helps distend the vein and prevents air embolism.
2. Turn the patient's head toward the opposite side if no risk of cervical injury exists.
3. Prep the site as per peripheral IV site.
4. Align the catheter with the vein and aim toward the same side shoulder.
5. "Tourniqueting" the vein lightly with one finger above the clavicle, puncture the vein midway between the angle of the jaw and the clavicle and cannulate the vein in the usual method.
6. Attach the IV and secure the catheter avoiding circumferential dressing or taping.
7. Document the procedure, time, and result (success) on/with the patient care report (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Emergency Medical Services

Standards Procedure (Skill)

Venous Access-Intraosseous-Pediatric

Optional Skill

P EMT-P P

Clinical Indications:

- Life threatening illness or injury in a child $\leq$ 6 years of age (72 months) after effective ventilation is established.

Procedure:

1. Expose the lower leg.
2. Identify the tibial tubercle (bony prominence below the knee cap) on the proximal tibia. The insertion location will be 1-2 cm (2 finger widths) below this and medially.
3. Prep the site as per peripheral IV site.
4. Holding the intraosseous needle perpendicular to the skin, twist the needle handle with a rotating grinding motion applying controlled downward force until a “pop” or “give” is felt indicating loss of resistance. Do not advance the needle any further.
5. Remove the trocar and attach the IV.
6. Stabilize and secure the needle with a hemostat, 4x4 pads and tape.
7. Document the procedure, time, and result (success) on/with the patient care report (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and possible complications of the procedure.

Mississippi Emergency Medical Services

Standards Procedure (Skill)

Wound Care

FR	FR	FR
B	EMT-B	B
I	EMT-I	I
P	EMT-P	P

Clinical Indications:

- Protection and care for open wounds prior to and during transport.

Procedure:

1. Use personal protective equipment, including gloves, gown, and mask as indicated.
2. If active bleeding, elevate the affected area if possible and hold direct pressure. Do not rely on “compression” bandage to control bleeding. Direct pressure is much more effective.
3. Once bleeding is controlled, irrigate contaminated wounds with saline as appropriate (this may have to be avoided if bleeding was difficult to control). Consider analgesia per protocol prior to irrigation.
4. Cover wounds with sterile gauze/dressings. Check distal pulses, sensation, and motor function to ensure the bandage is not too tight.
5. Monitor wounds and/or dressings throughout transport for bleeding.
6. Document the wound and assessment and care in the patient care report (PCR).

Certification Requirements:

- Successfully complete an annual skill evaluation inclusive of the indications, contraindications, technique, and the possible complications of the procedure.

Policies

Policies

Mississippi Emergency Medical Services
Standards Policy

Air Transport

Policy:

Air transport should be utilized whenever patient care can be improved by decreasing transport time or by giving advanced care not available from ground EMS services, but available from air medical transport services.

Purpose:

The purpose of this policy is to:

- Improve patient care in the pre hospital setting.
- Allow for expedient transport in serious, mass casualty settings.
- Provide life-saving treatment such as blood transfusion.

Procedure:

1. Patient transportation via ground ambulance will not be delayed to wait for helicopter transportation. If the patient is packaged and ready for transport and the helicopter is not the ground, or within a reasonable distance, the transportation will be initiated by ground ambulance.
2. Air transport should be considered is any of the following criteria apply:
    a. High priority patient with > 20 minute transport time.
    b. Entrapped patients with >10 minute estimated extrication time.
    c. Multiple casualty incident with red/yellow tag patients.
    d. Multi-trauma or medical patient requiring life-saving treatment not available in pre hospital environment.

3. If a potential need for air transport is anticipated, but not yet confirmed, an air medical transport service can be placed on standby.
4. If the scene conditions or patient situation improves after activation of the air medical transport service and air transport is determined not to be necessary, paramedic or administrative personnel may cancel the request for air transport.
5. Minimal information which should be provided to the air medical transport service include:
    a. Number of patients.
    b. Age of patients.
    c. Sex of patients.
    d. Mechanism of injury or complaint (MVC, fall, etc.)

Mississippi Emergency Medical Services
Standards Policy

Child Abuse Recognition and Reporting

Policy:

Child abuse is the physical and mental injury, sexual abuse, negligent treatment, or maltreatment of a child under the age of 18 by a person who is responsible for the child's welfare. The recognition of abuse and the proper reporting is a critical step to improving the safety of children preventing child abuse.

Purpose:

Assessment of child abuse case based upon the following principles:

- **Protect** the life of the child from harm, as well as that of the EMS team from liability.
- **Suspect** that the child may be a victim of abuse, especially if the illness/injury is not consistent with the reported history.
- **Respect** the privacy of the child and family.
- **Collect** as much evidence as possible, especially information.

Procedure:

1. With all children, assess for and document psychological characteristics of abuse, including excessively passivity, complaint or fearful behavior, excessive aggression, violent tendencies, excessive crying, fussy behavior, hyperactivity, or other behavioral disorders.
2. With all children, assess for and document physical signs of abuse, including especially any injuries that are inconsistent with the reported mechanism of injury. The back, buttocks, genitals, and face are common sites for abusive injuries.
3. With all children, assess for and document signs and symptoms of neglect, including inappropriate level of clothing for weather, inadequate hygiene, absence of attentive caregiver(s), or physical signs of malnutrition.
4. With all children, assess for and document signs of sexual abuse, including torn, stained or bloody under clothing, unexplained injuries, pregnancy, or sexually transmitted diseases.
5. Immediately report any suspicious findings to the receiving hospital (if transported) and/or Medical Control. (The designated personnel will contact the Social Services Department within the hospital.) EMS should not accuse or challenge the suspected abuser. This is a legal requirement to report, not an accusation. In the event of child fatality, law enforcement MUST be notified.

Mississippi Emergency Medical Services
Standards Policy

Criteria for Death/Withholding Resuscitation

Policy:

CPR and ALS treatment are to be withheld only if the patient is obviously deal or a valid Mississippi Do Not Resuscitate (DNR) form (see separate policy) is present. This policy in no way attempts to define when resuscitation should be initiated or withheld. This always has been and still is a medical and not a legal decision. The American Heart Association has established guidelines on decision-making and CPR, and the National Registry of Emergency Medical Technicians recognizes these as acceptable standards.

Purpose:

The purpose of this policy is to:

- Honor those who have obviously expired prior to EMS arrival.

Procedure:

1. If a patient is in complete cardiopulmonary arrest (clinically dead) and meets one or more of the criteria below, CPR and ALS therapy need not be initiated:
    a. Body decomposition.
    b. Rigor Mortis.
    c. Dependent lividity.
    d. Injury not compatible with life (i.e. decapitation, burned beyond recognition, open or penetrating trauma to the head or chest with obvious organ destruction)
    e. Extended downtime with Asystole on the ECG.
2. If a bystander or first responder has initiated CPR or Automated External Defibrillator prior to EMS arrival and any of the above criteria (signs of obvious death) are present, all levels may discontinue CPR and ALS therapy ***after*** communicating with Medical Control.
3. If doubt exists, start resuscitation efforts immediately. Once resuscitation is initiated, continue resuscitation efforts until patient care responsibilities are transferred to the destination hospital staff.

The reason to withhold CPR should be sufficiently firm so that, should it later be subject to question, a decision can be effectively supported. Contact Medical Control in any questionable decision.

Mississippi Emergency Medical Services

Standards Policy

Deceased Subjects

Policy:

EMS will handle the disposition of deceased subjects in a uniform timely consistent manner.

Purpose:

The purpose of this policy is to:

- Organize a timely disposition of any deceased subject.
- Maintain respect for the deceased and family.
- Allow EMS to return to service in a timely manner.

Procedure:

1. Do not remove lines or tubes from unsuccessful codes unless directed.
2. Notify the law enforcement agency with jurisdiction.
3. If subject was found deceased by EMS, the scene is turned over to law enforcement.
4. If EMS has attempted to resuscitate the patient and then terminated efforts, the EMS personnel should contact the Medical Examiner to provide information about the resuscitative efforts.
5. If the deceased subject's destination is other than the county morgue, all lines and tubes should be removed prior to transport.
6. Document the situation, name of Medical Control (if applicable), the Medical Examiner, the agency providing transport of the deceased subject (if available) and the destination on the patient care report.

Mississippi Emergency Medical Services
Standards Policy

Patient Refusal

Policy:

All patient encounters responded to by EMS will result in the accurate and timely completion of the appropriate patient care report and/or patient refusal form.

Purpose:

To provide for the documentation of:

- The evaluation and care of the patient.
- The patient's refusal of the evaluation, treatment and/or transportation.
- The patient's encounter to protect the local EMS system and its personnel from undue risk and liability.

Procedure:

1. All patient encounters, which result in some component of an evaluation, must have a patient care report completed.
2. All patients who refuse any component of the evaluation or treatment, based on the complaint, must have a refusal from completed.
3. All patients who are not transported by EMS must have a patient refusal form completed.

Mississippi
Do Not Resuscitate Form

Policy:

Any patient presenting to any component of the EMS system with a completed Mississippi Do Not Resuscitate (DNR) Form shall have the form honored and CPR and ALS therapy withheld in the event of cardiac arrest.

Purpose:

- To honor the terminal wishes of the patient.
- To prevent the initiation of unwanted resuscitation.

Procedure:

1. When confronted with a patient or situation involving DNR, the following conditions must be present in order to honor the DNR form and withhold CPR and ALS therapy:
    - Mississippi DNR form.
    - Effective date and expiration date filled out and current.
    - Form signed by family physician.
    - Patient in cardiac arrest.

2. A valid DNR order may be overridden by the request of:
    - The patient.
    - The guardian of the patient.
    - An on-scene physician.

3. A living will or other legal document that identifies the patient's desire to withhold CPR and/or ALS therapy may be honored with the approval of Medical Control. This should be done when possible in consultation with the patient's family and personal physician.

Mississippi Emergency Medical Services
Standards Policy

Documentation of the Patient Care Report

Policy:

An EMS patient care report form (PCR) will be completed accurately and legibly to reflect the patient assessment, patient care and interactions between EMS and the patient, for each patient contact which results in some assessment component.

Purpose:

To document:

- The total patient care provided including:
    1. System data regarding the EMS systems response;
    2. Dispatch information regarding the dispatch complaint, and EMD card number;
    3. Care provided prior to EMS arrival;
    4. Exam of patient as required by each specific complaint based protocol;
    5. Past medical history, medications, allergies, living will/DNR, and personal MD;
    6. All times related to the event;
    7. All procedures and their associated time;
    8. All medications administered with their associated time;
    9. Disposition and/or transport information;
    10. All communication with medical control;
    11. Signature of technicians providing care;
    12. Signature of treatment authorization if any deviation from protocol; and
    13. Signature of receiving individual assuming patient care at the medical facility.

    - Reason for inability to complete or document any above item.

Procedure:

1. The patient care report should be completed as soon as possible after the time of the patient encounter.
2. All patient interactions are to be recorded on the patient care report form or the disposition form (if refusing care).
3. The patient care report form must be completed with the above information.
4. A copy of the patient care form should be provided to the receiving medical facility.
5. A copy of the patient care report form is to be filed at the EMS office.
6. **Documentation will be completed prior to leaving the destination facility unless call demand dictates otherwise, in which case documentation must be completed within 24 hours.**

Documentation of Vital Signs

Policy:

Every patient encounter by EMS will be documented. Vital signs are a key component in the evaluation of any patient and a complete set of vital signs is to be documented for any patient who receives some assessment component.

Purpose:

To insure:

- Evaluation of every patient's volume and cardiovascular status
- Documentation of a complete set of vital signs

Procedure:

1. An **initial** complete set of vital signs includes:
   (a) Pulse rate
   (b) Systolic **AND** diastolic blood pressure
   (c) Respiratory rate
   (d) Pain / severity (when appropriate to patient complaint)
2. When no ALS treatment is provided, palpated blood pressures are acceptable for **repeat** vital signs.
3. Based on patient condition and complaint, vital signs may also include temperature.
4. If the patient refuses this evaluation, the patient's mental status and the reason for refusal of evaluation must be documented. A patient disposition form must also be completed.
5. Document situations that preclude the evaluation of a complete set of vital signs.
6. Record the time vital signs were obtained.
7. Any abnormal vital sign should be repeated and monitored closely.

Domestic Violence (Partner and/or Elder Abuse) Recognition and Reporting

Policy:

Domestic violence is physical, sexual, or psychological abuse and/or intimidation which attempts to control another person in a current or former family, dating, or household relationship. The recognition, appropriate reporting, and referral of abuse is a critical step to improving patient safety, providing quality health care, and preventing further abuse.

Elder abuse is the physical and/or mental injury, sexual abuse, negligent treatment, or maltreatment of a senior citizen by another person. Abuse may be at the hand of a caregiver, spouse, neighbor, or adult child of the patient. The recognition of abuse and the proper reporting is a critical step to improve the health and wellbeing of senior citizens.

Purpose:

Assessment of an abuse case based upon the following principles:

- **Protect** the patient from harm, as well as protecting the EMS team from harm and liability.
- **Suspect** that the patient may be a victim of abuse, especially if the injury/illness is not consistent with the reported history.
- **Respect** the privacy of the patient and family.
- **Collect** as much information and evidence as possible and preserve physical evidence.

Procedure:

1. Assess the/all patient(s) for any psychological characteristics of abuse, including excessive passivity, compliant or fearful behavior, excessive aggression, violent tendencies, excessive crying, behavioral disorders, substance abuse, medical non-compliance, or repeated EMS requests. This is typically best done in private with the patient.
2. Assess the patient for any physical signs of abuse, especially any injuries that are inconsistent with the reported mechanism of injury. The back, chest, abdomen, genitals, arms, legs, face, and scalp are common sites for abusive injuries. Defensive injuries (e.g. to forearms), and injuries during pregnancy are also suggestive of abuse. Injuries in different stages of healing may indicate repeated episodes of violence.
3. Assess all patients for signs and symptoms of neglect, including inappropriate level of clothing for weather, inadequate hygiene, absence of attentive caregiver(s), or physical signs of malnutrition.
4. Assess all patients for signs of sexual abuse, including torn, stained, or bloody underclothing, unexplained injuries, pregnancy, or sexually transmitted diseases.
5. Immediately report any suspicious findings to both the receiving hospital (if transported). If an elder or disabled adult is involved, also contact the Social Services Department at the receiving facility. After office hours, the adult social services worker on call can be contacted by the 911 communications center.
6. EMS personnel should attempt in private to provide the patient with the phone number of the local domestic violence program, or the **National Hotline, 1-800-799-SAFE**.

Mississippi Emergency Medical Services
Standards Policy

Patient Without a Protocol

Policy:

Anyone requesting EMS service will receive emergent evaluation, care, and transportation (if needed) in a systematic, orderly fashion regardless of the patient's problem or condition.

Purpose:

- To ensure the provision of appropriate medical care for every patient regardless of the patient's problem or condition.

Procedure:

1. Treatment and medical direction for all patient encounters, which can be triaged into an EMS patient care protocol, is to be initiated by protocol.

2. When confronted with an emergency or situation that does not fit into an existing EMS patient care protocol, the patient should be treated using the **Universal Patient Care Protocol** and a **Medical Control Physician** should be contacted for further instructions.

Physician on Scene

Policy:

The medical direction of prehospital care at the scene of an emergency is the responsibility of those most appropriately trained in providing such care. All care should be provided within the rules and regulations of the state of North Carolina.

Purpose:

- To identify a chain of command to allow field personnel to adequately care for the patient
- To assure the patient receives the maximum benefit from prehospital care
- To minimize the liability of the EMS system as well as the on-scene physician

Procedure:

1. When a non medical-control physician offers assistance to EMS or the patient is being attended by a physician with whom they do not have an ongoing patient relationship, EMS personnel must review the On-Scene Physician form with the physician. All requisite documentation must be verified and the physician must be approved by on-line medical control.

2. When the patient is being attended by a physician with whom they have an ongoing patient relationship, EMS personnel may follow orders given by the physician if the orders conform to current EMS guidelines, and if the physician signs the PCR. Notify medical control at the earliest opportunity. Any deviation from local EMS protocols requires the physician to accompany the patient to the hospital.

3. EMS personnel may accept orders from the patient's physician over the phone with the approval of medical control. The paramedic should obtain the specific order and the physician's phone number for relay to medical control so that medical control can discuss any concerns with the physician directly.

Mississippi Emergency Medical Services
Standards Policy

State Poison Center

Policy:

The state poison center should be utilized by the 911 center and the responding EMS services to obtain assistance with the prehospital triage and treatment of patients who have a potential or actual poisoning.

Purpose:

The purpose of this policy is to:

- Improve the care of patients with poisonings, envenomations, and environmental/biochemical terrorism exposures in the prehospital setting.
- Provide for the most timely and appropriate level of care to the patient, including the decision to transport or treat on the scene.
- Integrate the State Poison Center into the prehospital response for hazardous materials and biochemical terrorism responses

Procedure:

1. The 911 call center will identify and if EMD capable, complete key questions for emergency medical dispatch complaints and dispatch the appropriate EMS services and/or directly contact the State Poison Center for consultation.
2. If no immediate life threat or need for transport is identified, EMS personnel may conference the patient/caller with the Poison Center Specialist at the State Poison Center. If possible, dispatch personnel should remain on the line during conference evaluation.
3. The Poison Center Specialist at the State Poison Center will evaluate the exposure and make recommendations regarding the need for on-site treatment and/or hospital transport in a timely manner. If dispatch personnel are not on-line, the Specialist will recontact the 911 center and communicate these recommendations.
4. If the patient is determined to need EMS transport, the poison center Specialist will contact the receiving hospital and provide information regarding the poisoning, including treatment recommendations. EMS may contact medical control for further instructions or to discuss transport options.
5. If the patient is determined not to require EMS transport, personnel will give the phone number of the patient/caller to the Poison Center Specialist. The Specialist will initiate a minimum of one follow-up call to the patient/caller to determine the status of patient.
6. Minimal information that should be obtained from the patient for the state poison center includes:
   - Name and age of patient
   - Substance(s) involved
   - Time of exposure
   - Any treatment given
   - Signs and symptoms
7. Minimal information which should be provided to the state poison center for mass poisonings, including biochemical terrorism and HazMat, includes:
   - Substance(s) involved
   - Time of exposure
   - Signs and symptoms
   - Any treatment given

Safe Transport of Pediatric Patients

Policy:

Without special considerations children are at risk of injury when transported by EMS. EMS must provide appropriate stabilization and protection to pediatric patients during EMS transport.

Purpose:

To provide:

- Provide a safe method of transporting pediatric patients within an ambulance.
- Protect the EMS system and personnel from potential harm and liability associated with the transportation of pediatric patients.

Procedure:

1. Drive cautiously at safe speeds observing traffic laws.
2. Tightly secure all monitoring devices and other equipment.
3. Insure EMS personnel, the patient, and any other occupants use available restraint systems.
4. Transport adults and children who are not patients, properly restrained, in an alternate passenger vehicle, whenever possible.
6. Do not allow parents, caregivers, or other passengers to be unrestrained during transport.
7. Do not have the child/infant held in the parent's, caregiver's, or EMS personnel's arms or lap during transport.

Transport

Policy:

All individuals served by the EMS system will be evaluated, furnished transportation (if indicated) in the most timely and appropriate manner for each individual situation.

Purpose:

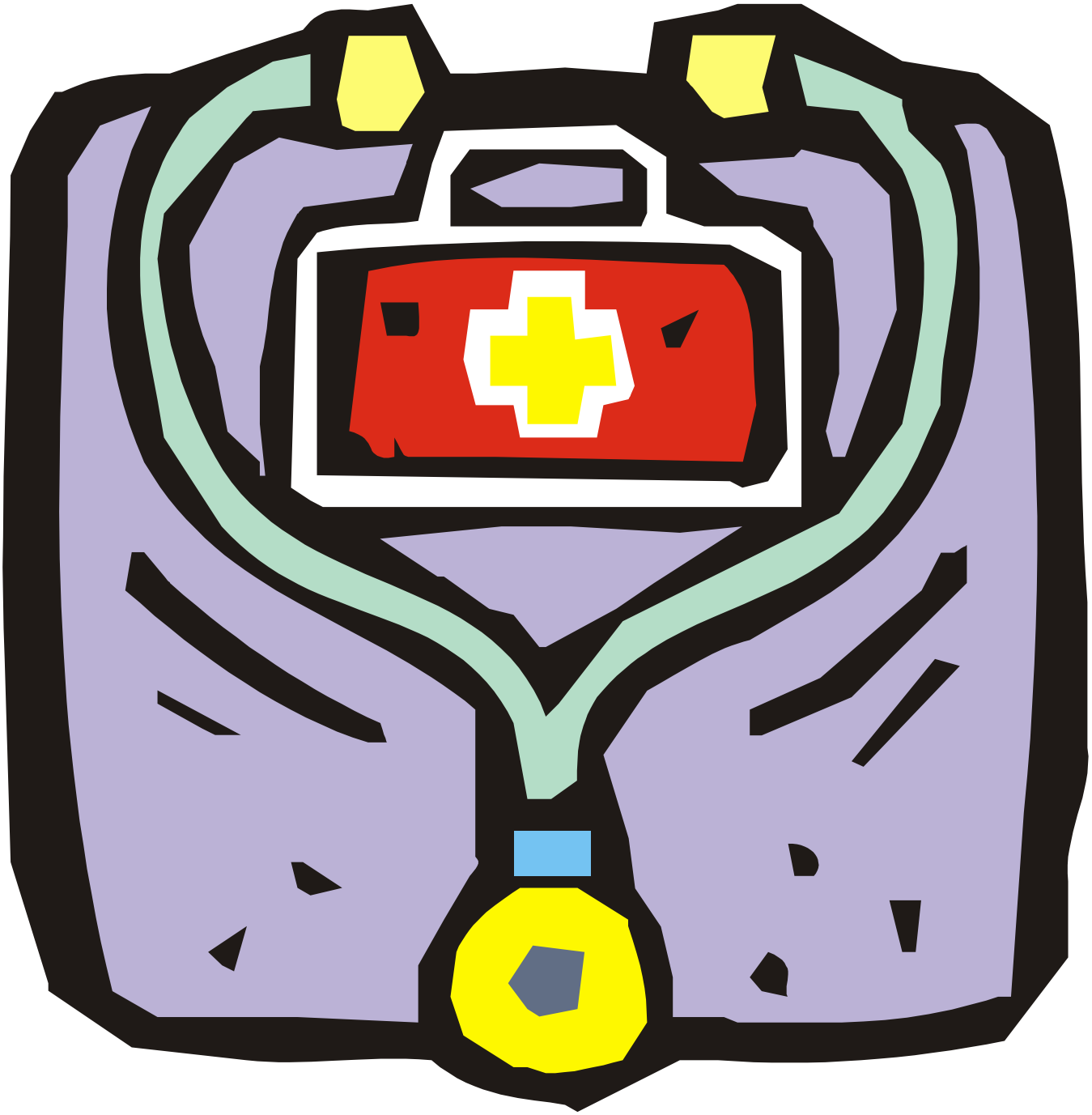
To provide:

- Rapid emergency EMS transport when needed.
- Appropriate medical stabilization and treatment at the scene when necessary.
- Protection of patients, EMS personnel, and citizens from undue risk when possible.

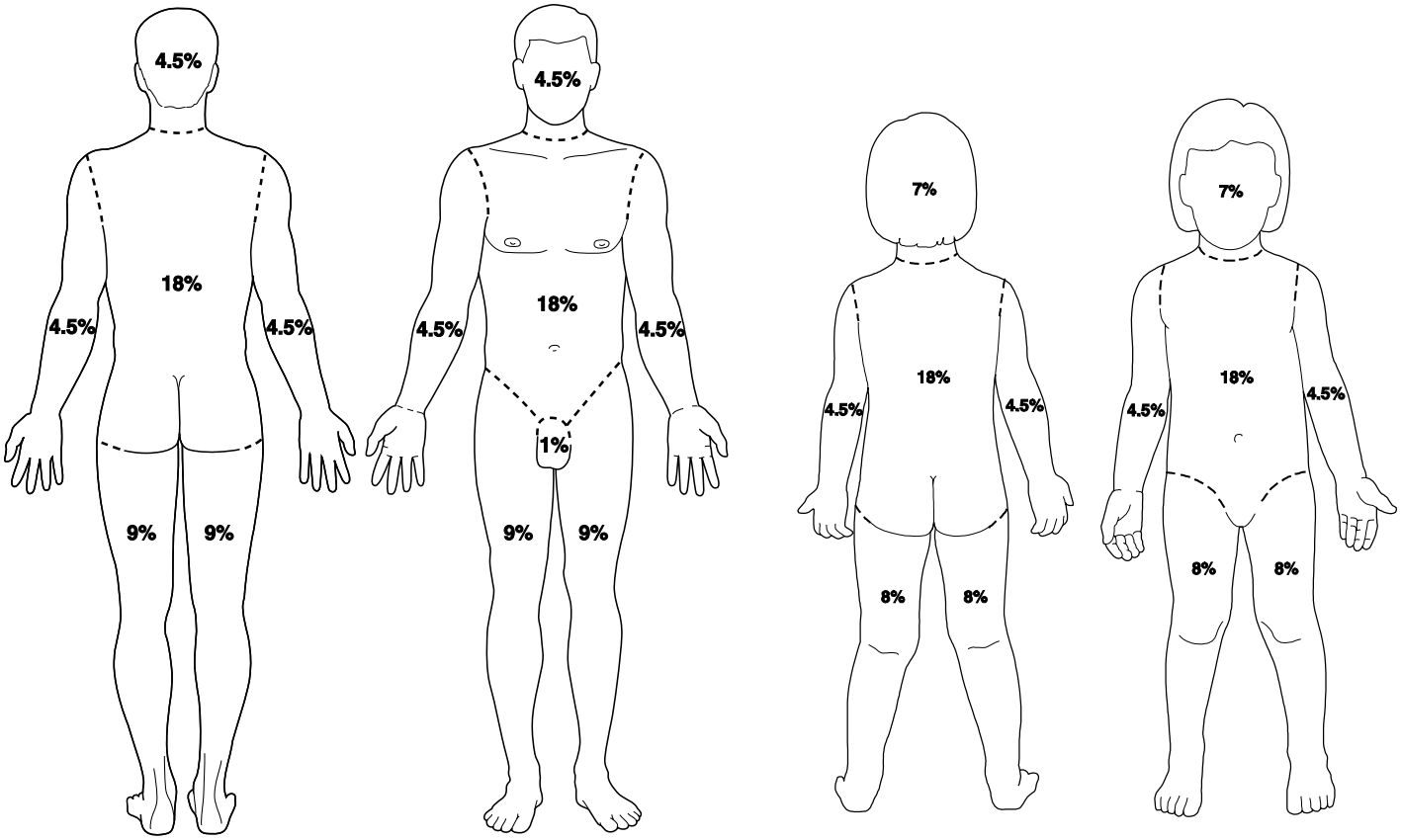
Procedure:

1. All trauma patients with mechanisms or history for multiple system trauma will be transported as soon as possible. The scene time should be 10 minutes or less.
2. Medical patients will be transported in the most efficient manner possible considering the medical condition. Advanced life support therapy should be provided at the scene if it would positively impact patient care. Justification for scene times greater than 20 minutes should be documented.
3. No patients will be transported in initial response non-transport vehicles.
4. In unusual circumstances, transport in other vehicles may be appropriate and will be directed by EMS administration.

Appendix



Burn Calculations
Rule of Nines



Lund and Browder Chart

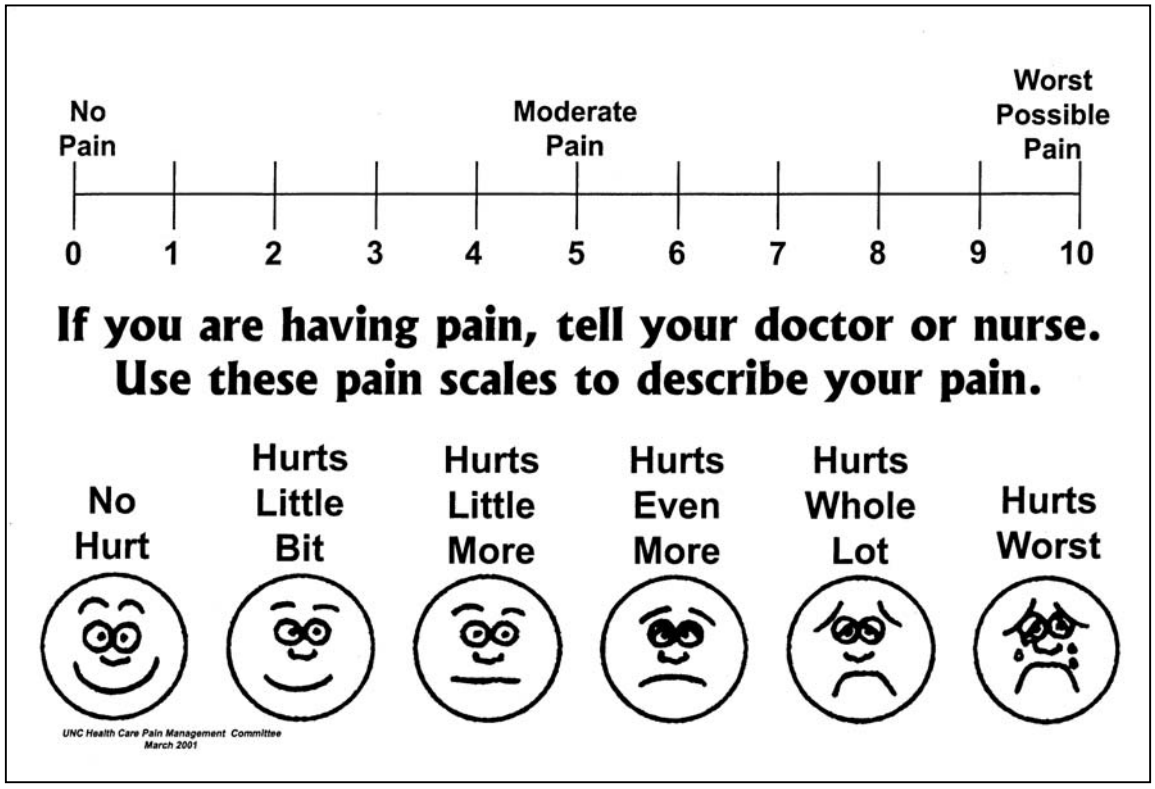
Age	0	1	5	10	15	Adult
A=Half of Head	9.5	8.5	6.5	5.5	4.5	3.5
B=Half of Thigh	2.75	3.25	4.0	4.25	4.25	4.75
C=Half of Leg	2.5	2.5	2.75	3.0	3.25	3.5

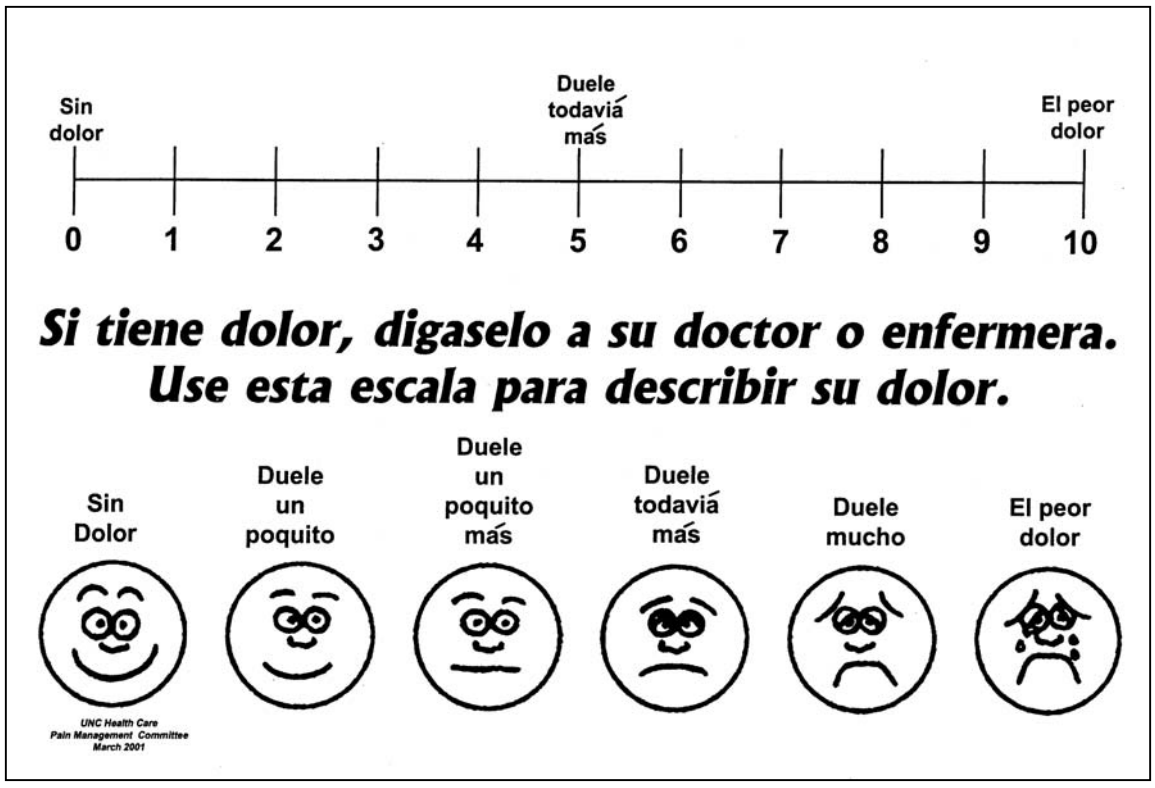
Apgar Score

The Apgar score should be obtained and recorded initially and at 5 minutes with the birth of delivery of any infant.

Sign	0	1	2
Heart Rate	Absent	<100 min.	>100 min.
Respiratory Effort	Absent	Weak Cry	Strong Cry
Muscle Tone	Limp	Some Flexion	Good Flexion
Reflex Irritability (when feet stimulated)	No Response	Some Motion	Cry
Color	Blue; Pale	Body Pink Extremities Blue	Pink

Pain Scale


No Pain
Moderate Pain
Worst Possible Pain
0 1 2 3 4 5 6 7 8 9 10
If you are having pain, tell your doctor or nurse.
Use these pain scales to describe your pain.
No Hurt
Hurts Little Bit
Hurts Little More
Hurts Even More
Hurts Whole Lot
Hurts Worst
UNC Health Care Pain Management Committee
March 2001


Sin dolor
Duele todaviá más
El peor dolor
0 1 2 3 4 5 6 7 8 9 10
Si tiene dolor, digaselo a su doctor o enfermera.
Use esta escala para describir su dolor.
Sin Dolor
Duele un poquito
Duele un poquito más
Duele todaviá más
Duele mucho
El peor dolor
UNC Health Care
Pain Management Committee
March 2001

Restraint Checklist

_____ 1. Reason for restraint
Check all that apply:
_____ Patient attempting to hurt self
_____ Patient attempting to hurt others
_____ Patient attempting to remove medically necessary devices

_____ 2. Attempted verbal reassurance / redirection

_____ 3. Attempted environmental modification (i.e. remove patient from stressful environment)

_____ 4. Received medical control order
From _____ at _____ hours

_____ 5. Type of restraint applied
Check all that apply
_____ Limb restraint
_____ LUE
_____ RUE
_____ LLE
_____ RLE
_____ Chemical Restraint
_____ Agent used
_____ Dosage
_____ Time

_____ 6. Vital signs and extremity neurovascular exam taken every 10 minutes

_____ 7. Patient NOT in prone position
_____ Supine position for transport
_____ Lateral recumbent position for transport

Thrombolytic Checklist

Mark all of the following conditions that currently apply to the patient. Items in italics are for hospital personnel to ascertain. The original of this form should accompany the patient throughout the course of their treatment, and the duplicate copy should be attached to the white copy (original) of the PCR.

ABSOLUTE CONTRAINDICATIONS

- ❑ Prolonged CPR
- ❑ Head injury
- ❑ Blood pressure > 185/110 mm Hg (after treatment with NTG paste)
- ❑ Prior cerebral bleeding
- ❑ Trauma or surgery within 2 weeks or puncture of noncompressable vessel or organ biopsy
- ❑ Central nervous system neoplasm, AV malformation, or aneurysm
- ❑ CNS procedure or CVA within 2 months
- ❑ Thrombolytic allergy (Streptokinase or anistreplase)
- ❑ Active internal bleeding
- ❑ *Hemorrhagic retinopathy*
- ❑ *Aortic dissection*

RELATIVE CONTRAINDICATIONS

- ❑ Age over 75
- ❑ Trauma / surgery more than 2 weeks ago
- ❑ Pregnancy or early postpartum
- ❑ Chronic severe hypertension
- ❑ Recent GI bleeding or active peptic ulcer disease (<10 days)
- ❑ History of cerebrovascular accident
- ❑ Menstruation
- ❑ Anticoagulant medication
- ❑ Liver dysfunction
- ❑ Terminal cancer or other end-stage disease
- ❑ Conditions associated with bleeding risks, such as diabetic retinopathy
- ❑ *Acute pericarditis or sub acute bacterial endocarditis*
- ❑ *Recent streptococcal infection, if streptokinase or anistreplase will be used*
- ❑ *Previous Streptokinase / Alteplase*
- ❑ *Bleeding diathesis*
- ❑ *Septic thrombophlebitis*

Approved Medical Abbreviations

Mississippi State Department of Health – Division of EMS maintains the following list of approved medical abbreviations. Please limit your use of abbreviations to those that appear on this list.

A&O x 3	- alert and oriented to person, place and time
A&O x 4	- alert and oriented to person, place, time and event
A-FIB	- atrial fibrillation
AAA	- abdominal aortic aneurysm
ABC	- airway, breathing, circulation
ABD	- abdomen (abdominal)
ACLS	- advanced cardiac life support
AKA	- above the knee amputation
ALS	- advanced life support
AMA	- against medical advice
AMS	- altered mental status
AMT	- amount
APPROX	- approximately
AVPU	- Acronym for **A**lert, **V**erbal, **P**ainful, **U**nconscious
ASA	- aspirin
ASSOC	- associated
BG	- blood glucose
BILAT	- bilateral
BKA	- below the knee amputation
BLS	- basic life support
BM	- bowel movement
BP	- blood pressure
BS	- breath sounds
BVM	- bag-valve-mask
C-SECTION	- caesarean section
C-SPINE	- cervical spine
C/O	- complaint of (complains of)
CA	- cancer
CABG	- coronary artery bypass graft
CAD	- coronary artery disease
CATH	- catheter
CC	- chief complaint
CEPH	- cephalic
CHF	- congestive heart failure
CNS	- central nervous system
COPD	- chronic obstructive pulmonary disease
CP	- chest pain

Approved Medical Abbreviations

CPR	- cardiopulmonary resuscitation
CSF	- cerebrospinal fluid
CT	- cat scan
CVA	- cerebrovascular accident (stroke)
D5W	- 5% dextrose in water
DKA	- diabetic ketoacidosis
DNR	- do not resuscitate
DOA	- dead on arrival
DT	- delirium tremens
Dx	- diagnosis
ECG	- electrocardiogram
EEG	- electroencephelogram
ET	- endotracheal
ETOH	- ethanol (alcohol)
ETT	- endotracheal tube
EXT	- external (extension)
FB	- foreign body
FLEX	- flexion
Fx	- fracture
g	- gram(s)
GI	- gastrointestinal
GCS	- Glascow Coma Scale
GSW	- gunshot wound
gtts	- drops
GU	- gastrourinary
GYN	- gynecology (gynecological)
H/A	- headache
HEENT	- head, eyes, ears, nose, throat
HR	- heart rate (hour)
HTN	- hypertension
Hx	- history
ICP	- intracranial pressure
ICU	- intensive care unit
IM	- intramuscular
IV	- intravenous
JVD	- jugular vein distension

Approved Medical Abbreviations

kg	- kilogram
KVO	- keep vein open
L-SPINE	- lumbar spine
L/S-SPINE	- lumbarsacral spine
L&D	- labor and delivery
LAT	- lateral
lb	- pound
LLQ	- left lower quadrant
LMP	- last menstrual period
LOC	- level of consciousness (loss of consciousness)
LR	- lactated ringers
LUQ	- left upper quadrant
MAST	- military anti-shock trousers
mcg	- microgram(s)
MED	- medicine
mg	- milligram(s)
MI	- myocardial infarction (heart attack)
min	- minimum / minute
MS	- mental status
MSΔ	- mental status change
MSO4	- morphine
MVC	- motor vehicle crash
N/V	- nausea/vomiting
N/V/D	- nausea/vomiting/diarrhea
NAD	- no apparent distress
NC	- nasal cannula
NEB	- nebulizer
NKDA	- no known drug allergies
NRB	- non-rebreather
NS	- normal saline
NSR	- normal sinus rhythm
OB/GYN	- obstetrics/gynecology
OPQRST	- Acronym for **o**nset, **p**rovocation, **q**uality, **r**adiation, **s**everity, and **t**ime
PALP	- palpation
PAC	- premature atrial contraction
PE	- pulmonary embolus
PEARL	- pupils equal and reactive to light
PMHx	- past medical history
PO	- orally
PRB	- partial rebreather
PRN	- as needed
PT	- patient

Approved Medical Abbreviations

PVC	- premature ventricular contraction
RLQ	- right lower quadrant
RTS	- Revised Trauma Score
RUQ	- right upper quadrant
Rx	- medicine
RXN	- reaction
SAMPLE	- Acronym for **s**igns/**s**ymptoms, **a**llergies, **m**edications, **p**ast medical history, **l**ast oral intake, **e**vents leading up to incident
S/P	- status post
SOB	- shortness of breath
SQ	- subcutaneous
ST	- sinus tachycardia
SVT	- supraventricular tachycardia
Sx	- symptom
SZ	- seizure
T-SPINE	- thoracic spine
T	- temperature
TIA	- transient ischemic attack
TKO	- to keep open (refers to IV's - same as KVO)
Tx	- treatment
UOA	- upon our arrival
URI	- upper respiratory infection
UTI	- urinary tract infection
VF	- ventricular fibrillation
VS	- vital signs
VT	- ventricular tachycardia
WAP	- wandering atrial pacemaker
WNL	- within normal limits
YO (YOA)	- years old (years of age)

Approved Medical Abbreviations

M or ♂	- male
F or ♀	- female
+	- positive
-	- negative
?	- questionable
ψ	- pyschiatric
~	- approximately
>	- greater than
<	- less than
=	- equal
↑	- upper (increased)
$\overline{a}$	- before
$\overline{p}$	- after
$\overline{c}$	- with
$\overline{s}$	- without
Δ	- change
L	- left
R	- right
↓	- lower (decreased)
1°	- primary
2°	- secondary

Drug List

Drug List

Drug List

This document is based on the Mississippi Emergency Medical Services Rules and Regulations.

Drug	Adult	Pediatric
Adenosine • **Protocol:** SVT Vent. Tachycardia • Specifically for treatment or diagnosis of SVT	• 6 mg IV push over 1-3 seconds. If no effect after 1-2 minutes, • 12 mg IV push over 1-3 seconds. Repeat once if necessary • (use stopcock and 20 ml NS flush with each dose)	Ø
Albuterol • **Protocol:** Drowning Resp. Distress Ped. Resp. Distress • B-Agonist nebulized treatment for use in respiratory distress with bronchospasm	• 2.5-5.0 mg (3cc) in nebulizer continuously x 3 doses, if no history of cardiac disease and Heart Rate ≤ 150.	**See Color Coded List**
Antiemetic (Promethazine/ Phenergan) • **Protocols:** Abdominal Pain Vomiting and Diarrhea	• 25 mg IM or IV • (If ≥ 60 yrs. old, dose 12.5 mg IV)	Ø
Aspirin • **Protocol:** Chest Pain • An antiplatelet drug for use in cardiac chest paing	• 81 mg chewable (baby) Aspirin. Give 4 tablets to equal usual adult dose.	Ø
Atropine • **Protocol:** Asystole Bradycardia PEA Overdose Ped. Bradycardia • Anticholinergic drug used in bradycardias or asystole. • For Entotracheal Tube use of this drug, double the dose. • In Organophospate toxicity, large doses may be required (> 10 mg).	Asystole • 1 mg IV. Reapeat in 3-5 minutes up to 3 mg. Bradycardia • 0.5 mg-1.0 mg IV every 3-5 minutes up to 3 mg. (Endotracheal max dose 6 mg) Organophosphate • 1-2 mg IM or IV; additional doses per medical control	**See Color Coded List**

Drug	Adult	Pediatric
Bretylium • **Protocol:** Per specific agency • Antidysrhthmic, used in the setting of refractory ventricular dysrhythmias (2nd line)	• 5-10mg/kg IV/IM. May repeat to a maximum of 30 mg/kg • Infusion rate 1-2 mg/minute if bolus is successful	**See Color Coded List**
Calcium Chloride • **Protocol:** PEA Vent. Fibrillation • Indicated for severe hyperkalemia	• One amp (10 ml) or 1 gm IV • Avoid use if pt is taking digoxin	**See Color Coded List**
Charcoal • **Protocol:** Overdose • Binds, or absorbs, various chemical agents and drugs from the GI tract • Combined with Sorbitol to promote GI motility	• 50 gms po or NG Tube	**See Color Coded List**
Crystalloid Solutions (Normal Saline) • **The IV fluid of choice for access or volume infusion**	• KVO for IV access • Bolus in 250 ml for cardiac • Bolus in 500 to 1000 ml amount for volume • Bolus in 1000 ml amount for burns or electrical injuries	**See Color Coded List**
Diazepam • **Protocol:** Seizure Ped. Seizure • Seizure control • Mild Sedation	• 4 mg IV initially then 2 mg IV every 3 - 5 minutes up to 10 mg max unless med control dictates • IM dosage = double the IV dosage up to 20 mg total	**See Color Coded List**
Diphenhydramine (Benadryl) • **Protocol:** Allergic Reaction • Antihistamine for control of allergic reactions	• 50 mg IV/IM/PO	**See Color Coded List**

Drug	Adult	Pediatric
Dobutamine • **Protocol:** Per specific agency • Pressor agent used to maximize cardiac output	• 2-20 micrograms/kg/min titrate to BP systolic of 90 mmHg or as per medical control	**See Color Coded List**
Dopamine • **Protocol:** Bradycardia PEA Post Resuscitation Hypotension Ped. Hypotension • A vasopressor used in shock or hypotensive states	• 2 - 20 micrograms/kg/min titrate to BP systolic of 90 mmHg	**See Color Coded List**
Epinephrine 1:1,000 • **Protocol:** Allergic Reaction Resp. Distress Ped. Resp. Distress • Vasopressor used in allergic reactions or anaphylaxis	• 0.3 mg SQ (if age < 50 yrs) • 0.15 mg SQ (if age > 50 yrs)	**See Color Coded List**
Epinephrine 1:10,000 • **Protocol:** Asystole PEA Vent. Fibrillation Allergic Reaction Ped. Bradycardia Ped. Pulseless Arrest • Vasopressor used in cardiac arrest.	• 1.0 mg IV • Repeat every 3 - 5 minutes until observe response • (May be given by Endotracheal tube in double the IV dose)	**See Color Coded List**
Flumazenil • **Protocol**: Overdose • Medication that reverses benzodiazepine sedation • May precipitates seizures, esp in mixed-drug overdose	• 0.2 mg IV • May repeat q 1 min for 5 total doses • May repeat series of 5 doses 3 times per hour (Maximum dose = 3 mg/hour)	**See Color Coded List**
Furosemide • **Protocol:** Pulmonary Edema • Diuretic for pulmonary edema or CHF	• 20 mg IV or dose to equal patient's normal single home PO dose	∅

Drug	Adult	Pediatric
Glucagon • Protocol: Hypoglycemia Seizure Stroke Syncope Ped. Head Trauma Ped. Hypotension Ped. Pulseless Arrest Ped. Seizure • Drug acting to release glucose into blood stream by glycogen breakdown • Use in patients with no IV access	• 1 - 2 mg IM • Follow blood glucose in 15 minutes, if < 60 repeat.	**See Color Coded List**
Glucose Solutions - Dextrose 50% • Protocol: Hypoglycemia Seizure Stroke Syncope • Use in unconscious or hypoglycemic states	• One amp or 25 gm IV bolus • Repeat based on blood glucose results	Ø
Haldoperidol (Haldol) • **Protocol:** Behavioral • Medication to assist with sedation of agitated patients	• 10 mg IV/IM • May repeat as per Medical Control	Ø
Heparin • **Protocol:** Per specific agency • Anticoagulant used in the setting of suspected myocardial ischemia, pulmonary embolism, etc.	• Bolus and infusion rate per medical control	Ø
Isoproterenol • **Protocol:** Per specific agency • Agent used to increase heart rate	• 0.02-0.06 mg IV • 2-20 mcg/min infusion	Ø
Lidocaine • **Protocol:** Post Resuscitation Vent. Fibrillation Vent. Tachycardia Ped. Pulseless Arrest • Antiarrhythmic used for control of ventricular dysrrythmias	• 1.5 mg/kg IV bolus (ETT dose = 2 x IV dose) • Initial Dose 0.75 mg/kg in patients ≥ 60 years of age. • Repeat 1/2 initial dose in 10 minutes.	**See Color Coded List**

Drug	Adult	Pediatric
Lorazepam (Ativan) • **Protocol**: Seizure • Benzodiazepine used to control seizures • Be alert for respiratory Depression	• 2-4 mg IV/IM • May repeat q 5-10 minutes if seizures not controlled	**See Color Coded List**
Magnesium Sulfate • **Protocol:** OB / Gyn Emergency Vent. Tachycardia • Elemental electrolyte	• 2 g slow IV push • dose may be repeated once	Ø
Mannitol • **Protocol:** Per specific agency • Medication to control intracranial pressure	• 1 gram/kg IV over 30 to 60 minutes. • Typical Adult dose is 100 grams.	Ø
Narcotic Analgesic (Morphine Sulfate) • **Protocol:** Pain Control Chest Pain • Narcotic pain relief • Antianxiety • Possible beneficial effect in pulmonary edema • Avoid use if BP < 110	• 4 mg IV bolus then 2 mg IV/IM every 3 - 5 minutes until 10 mg or improvement	**See Color Coded List**
Narcotic Antagonoist (Naloxone/Narcan) • **Protocol:** Overdose Neonatal Ped. Bradycardia Ped. Head Trauma Ped. Pulseless Arrest • Narcotic antagonist	• 0.5 - 2 mg IV bolus titrated to patient's respiratory response • May be given IM if unable to establish IV in a known narcotic overdose	**See Color Coded List**

Drug	Adult	Pediatric
Nitroglycerin • **Protocol:** Chest Pain Pulmonary Edema • Vasodilator used in anginal syndromes, CHF and Hypertension.	Chest Pain • 1 spray/tablet SL every 5 minutes until painfree or 3 doses • If SBP < 100, contact medical control • 1" paste after pain free or 3 doses Pulmonary Edema • 1 spray/tablet SL every 1-2 minutes if BP >110 Systolic Hypertension • 1 spray/tablet SL every 1-2 minutes until BP <110 Diastolic	Ø
Nitrous Oxide • **Protocol:** Per specific agency • Medication used to assist with control of pain.	• Inhale gas to desired effect, per locol protocol. (50/50 mix)	Ø
Norepinephrine (Levophed) • **Protocol:** As per specific agency • Medication used to increase blood pressure in the setting of non-hemmorhagic shock	• 2-12 mcg/kg/min – titrate to desired blood pressure	Ø
Oxygen • **Protocol:** Universal patient care • Useful in Airway, Chest Pain, and Respiratory Distress. Required for pre-oxygenation whenever possible prior to intubation.	• 1-4 liters/min via nasal cannula • 6-15 liters/min via NRB mask • 15 liters via BVM	• 1-4 liters/min via nasal cannula • 6-15 liters/min via NRB mask • 15 liters via BVM
Oxytocin • **Protocol:** Per specific agency • Medication used to induce labor and to control postpartum bleeding	• 0.001-0.02 units/min IV infusion • 10 units IM X 1 for postpartum hemmorrhage	Ø
Potassium Chloride (KCl) • **Protocol:** Per specific agency • Medication used to treat hypokalemia	• IV Infusion rate per medical control only • Maximum rate is 10 meq per hour IV controlled via an IV pump	Ø

Drug	Adult	Pediatric
Pralidoxime (2-PAM) • **Protocol:** Overdose • Antidote for Nerve Agents or Organophosphate Overdose • Administered with Atropine	• 600 mg IM or IV	• per Medical Control only
Procainamide (Pronyestyl) • **Protocol:** Per specific agency • Anti-dysrhythmic medication. Monitor for QRS widening and hypotension	• 100 mg IV load • May repeat q 10 minutes per medical control order • 10-20 mg/min IV infusion	Ø
Sodium Bicarbonate • **Protocol:** Asystole Overdose PEA Vent. Fibrillation Electrical Injuries • A buffer used in acidosis to increase the pH in Cardiac Arrest or Tricyclic Overdose.	• 1 amp (50 mEq) IV initially, then 1/2 amp IV every 10 minutes as needed • In TCA (tricyclic), 1 amp (50 mEq) bolus, then 2 amps in 1 liter of NS for infusion at 200 ml/hr.	**See Color Coded List**
Thiamine • Protocol: CVA Hypoglycemia Seizure Syncope • Essential vitamin needed for glucose metabolism • Given if patient receives D_{50}	• 100 mg IV or IM • Dilute IV dose in 10 ml Normal Saline	Ø
Thrombolytic Agents (e.g., tPA) • **Protocol:** Per specific agency • A medication used to disolve blood clot associated with stroke or heart attack	• Per specific medical control order	Ø

<u>Vasopressin</u> (Pitressin) • **Protocol:** Per specific agency • Medication used in place of and/or in addition to epinephrine in the setting of ventricular fibrillation/pulsesless ventricular tachycardia	• 40 units IV X 1	Ø

Pediatric Color Coded Drug List

Weight 3-5 Kg (Avg 4.0 Kg)

Length < 59.5 cm

White (0-3 months)

Vital Signs

Heart Rate	120-150
Respirations	24-48
BP Systolic	70 (+/-25)

Equipment

ET Tube	2.5 - 3.5
Blade Size	0 - 1

Defibrillation

Defibrillation	8 Joules
Cardioversion	4 Joules

Normal Saline 40-80 ml

ACLS

Atropine	0.10 mg
Calcium Chloride	80 mg
Epinephrine 1:10,000	0.04 mg
Epinephrine 1:1000 ET	0.4 mg
Lidocaine	4 mg
Sodium Bicarbonate	4 mEq

Dopamine (800 mg in 500 cc)

2	mcg/kg/min	0.3 ml/hr
5	mcg/kg/min	0.9 ml/hr
10	mcg/kg/min	1.7 ml/hr
20	mcg/kg/min	3.3 ml/hr

Medications

Albuterol		2.5mg
Charcoal		N/A
Dextrose 10%		20-30 ml
Diazepam	(IV)	0.6 mg
	(Rectal)	3.2 mg
Diphenhydramine		6.5 mg
Epinephrine 1:1000		0.06 mg
Glucagon		0.2-0.6 mg
Morphine Sulfate		0.6 mg
Naloxone		0.6 mg

Weight 6-7 Kg (Avg 6.5 Kg)

Length 59.5-66.5 cm

Pink (3-6 Months)

Vital Signs

Heart Rate	120-125
Respirations	24-48
BP Systolic	85 (+/-25)

Equipment

ET Tube	3.5
Blade Size	1

Defibrillation

Defibrillation	13 Joules
Cardioversion	6 Joules

Normal Saline 65-130 ml

ACLS

Atropine	0.13 mg
Bretylium	30-35 mg
Calcium Chloride	120 mg
Epinephrine 1:10,000	0.065 mg
Epinephrine 1:1000 ET	0.6 mg
Lidocaine	6 mg
Sodium Bicarbonate	6 mEq

Dopamine (800 mg in 500 cc)

2	mcg/kg/min	0.5 ml/hr
5	mcg/kg/min	1.3 ml/hr
10	mcg/kg/min	2.5 ml/hr
20	mcg/kg/min	5.0 ml/hr

Medications

Albuterol		1.0 mg
Charcoal		HOLD
Dextrose 10%		30-35 ml
Diazepam	(IV)	0.6 mg
	(Rectal)	3.2 mg
Diphenhydramine		6.5 mg
Epinephrine 1:1000		0.06 mg
Glucagon		0.2-0.6 mg
Morphine Sulfate		0.6 mg
Naloxone		0.6 mg

Weight 8-9 Kg (Avg 8.5 Kg)

Length 66.5-74 cm

Red (7-10 Months)

Vital Signs

Heart Rate	120
Respirations	24-32
BP Systolic	92 (+/-30)

Equipment

ET Tube	3.5-4.0
Blade Size	1

Defibrillation

Defibrillation	17 Joules
Cardioversion	8 Joules

Normal Saline 85-170 ml

ACLS

Atropine	0.17 mg
Bretylium	45 mg
Calcium Chloride	170 mg
Epinephrine 1:10,000	0.085 mg
Epinephrine 1:1000 ET	0.8 mg
Lidocaine	8 mg
Sodium Bicarbonate	8 mEq

Dopamine (800 mg in 500 cc)

2	mcg/kg/min	0.7 ml/hr
5	mcg/kg/min	1.6 ml/hr
10	mcg/kg/min	3.2 ml/hr
20	mcg/kg/min	6.5 ml/hr

Medications

Albuterol		1.25 mg
Charcoal		HOLD
Dextrose 12.5%		45-50 ml
Diazepam	(IV)	0.8 mg
	(Rectal)	4.3 mg
Diphenhydramine		7.5 mg
Epinephrine 1:1000		0.08 mg
Glucagon		0.3-0.8 mg
Morphine Sulfate		0.8 mg
Naloxone		0.8 mg

Pediatric Color Coded Drug List

Weight 10-11 Kg (Avg 10.5 Kg)

Length 74-84.5 cm

Purple (11-18 Months)

Vital Signs

Heart Rate	115-120
Respirations	22-30
BP Systolic	96 (+/-30)

Equipment

ET Tube	4.0
Blade Size	1

Defibrillation

Defibrillation	20 Joules
Cardioversion	10 Joules

Normal Saline 105-210ml

ACLS

Atropine	0.2 mg
Bretylium	55 mg
Calcium Chloride	210 mg
Epinephrine 1:10,000	0.1 mg
Lidocaine	10 mg
Sodium Bicarbonate	10 mEq

Dopamine

(800 mg in 500 ml Normal Saline)

2	mcg/kg/min	0.8 ml/hr
5	mcg/kg/min	2.0 ml/hr
10	mcg/kg/min	4.0 ml/hr
20	mcg/kg/min	8.0 ml/hr

Medications

Albuterol		1.6 mg
Charcoal		HOLD
Dextrose 12.5%		40-60 ml
Diazepam	(IV)	1.0 mg
	(Rectal)	5.0 mg
Diphenhydramine		10 mg
Epinephrine 1:1000		0.1 mg
Glucagon		0.3-1.0 mg
Morphine Sulfate		1.0 mg
Naloxone		1.0 mg

Weight 12-14 Kg (Avg 13 Kg)

Length 84.5-97.5 cm

Yellow (19-35 Months)

Vital Signs

Heart Rate	110-115
Respirations	20-28
BP Systolic	100(+/-30)

Equipment

ET Tube	4.5
Blade Size	2

Defibrillation

Defibrillation	26 Joules
Cardioversion	13 Joules

Normal Saline 130-260ml

ACLS

Atropine	0.26 mg
Bretylium	65 mg
Calcium Chloride	260 mg
Epinephrine 1:10,000	0.13 mg
Lidocaine	13 mg
Sodium Bicarbonate	13 mEq

Dopamine

(800 mg in 500 ml Normal Saline)

2	mcg/kg/min	0.8 ml/hr
5	mcg/kg/min	2.5 ml/hr
10	mcg/kg/min	5.0 ml/hr
20	mcg/kg/min	10 ml/hr

Medications

Albuterol		2 mg
Charcoal		15 gms
Dextrose 12.5%		60-80 ml
Diazepam	(IV)	1.3 mg
	(Rectal)	6.5 mg
Diphenhydramine		12.5 mg
Epinephrine 1:1000		0.13 mg
Glucagon		0.4-1 mg
Morphine Sulfate		1.3 mg
Naloxone		1.3 mg

Weight 15-18 Kg (Avg 16.5 Kg)

Length 97.5-110 cm

White (3-4 yrs)

Vital Signs

Heart Rate	100-15
Respirations	20-26
BP Systolic	100(+/-20)

Equipment

ET Tube	5.0
Blade Size	2

Defibrillation

Defibrillation	35 Joules
Cardioversion	16 Joules

Normal Saline 165-330ml

ACLS

Atropine	0.33 mg
Bretylium	85 mg
Calcium Chloride	330 mg
Epinephrine 1:10,000	0.16 mg
Lidocaine	15 mg
Sodium Bicarbonate	15 mEq

Dopamine

(800 mg in 500 ml Normal Saline)

2	mcg/kg/min	1.2 ml/hr
5	mcg/kg/min	3.0 ml/hr
10	mcg/kg/min	6.0 ml/hr
20	mcg/kg/min	12 ml/hr

Medications

Albuterol		2.5 mg
Charcoal		15-30 gms
Dextrose 12.5%		60-80 ml
Diazepam	(IV)	1.6 mg
	(Rectal)	8.0 mg
Diphenhydramine		15 mg
Epinephrine 1:1000		0.16 mg
Glucagon		0.5-1.0 mg
Morphine Sulfate		1.5 mg
Naloxone		1.5 mg

Pediatric Color Coded Drug List

Weight 19-22 Kg (Avg 20.75 Kg)

Length 110-122 cm

Blue (5-6 yrs)

Vital Signs

Heart Rate	100
Respirations	20-24
BP Systolic	100(+/-15)

Equipment

ET Tube	5.5
Blade Size	2

Defibrillation

Defibrillation	40 Joules
Cardioversion	20 Joules

Normal Saline 200-300ml

ACLS

Atropine	0.4 mg
Bretylium	100 mg
Calcium Chloride	400 mg
Epinephrine 1:10,000	0.2 mg
Lidocaine	20 mg
Sodium Bicarbonate	20 mEq

Dopamine

(800 mg in 500 ml Normal Saline)

2	mcg/kg/min	1.6 ml/hr
5	mcg/kg/min	3.9 ml/hr
10	mcg/kg/min	7.8 ml/hr
20	mcg/kg/min	16 ml/hr

Medications

Albuterol		3 mg
Charcoal		20-40 gms
Dextrose 12.5%		100 ml
Diazepam	(IV)	2.0 mg
	(Rectal)	10.0 mg
Diphenhydramine		20.0 mg
Epinephrine 1:1000		0.2 mg
Glucagon		1.0 mg
Morphine Sulfate		2.0 mg
Naloxone		2.0 mg

Weight 24-30 Kg (Avg 27 Kg)

Length 122-137 cm

Orange (7-9 yrs)

Vital Signs

Heart Rate	90
Respirations	18-22
BP Systolic	105(+/-15)

Equipment

ET Tube	6.0
Blade Size	2-3

Defibrillation

Defibrillation	54 Joules
Cardioversion	27 Joules

Normal Saline 270-540ml

ACLS

Atropine	0.5 mg
Bretylium	135 mg
Calcium Chloride	540 mg
Epinephrine 1:10,000	0.27 mg
Lidocaine	25 mg
Sodium Bicarbonate	25 mEq

Dopamine

(800 mg in 500 ml Normal Saline)

2	mcg/kg/min	2 ml/hr
5	mcg/kg/min	5 ml/hr
10	mcg/kg/min	10 ml/hr
20	mcg/kg/min	20 ml/hr

Medications

Albuterol		4 mg
Charcoal		25-50 gms
Dextrose 12.5%		100-150ml
Diazepam	(IV)	2.5 mg
	(Rectal)	12.5 mg
Diphenhydramine		25 mg
Epinephrine 1:1000		0.3 mg
Glucagon		1.0 mg
Morphine Sulfate		2.8 mg
Naloxone		2.8 mg

Weight 32-40 Kg (Avg 36 Kg)

Length 137-150 cm

Green (10-12 yrs)

Vital Signs

Heart Rate	85-90
Respirations	16-22
BP Systolic	115(+/-20)

Equipment

ET Tube	6.5
Blade Size	3

Defibrillation

Defibrillation	70 Joules
Cardioversion	40 Joules

Normal Saline 400-800ml

ACLS

Atropine	0.72 mg
Bretylium	180 mg
Calcium Chloride	720 mg
Epinephrine 1:10,000	0.36 mg
Lidocaine	36 mg
Sodium Bicarbonate	36 mEq

Dopamine

(800 mg in 500 ml Normal Saline)

2	mcg/kg/min	2.7 ml/hr
5	mcg/kg/min	7.0 ml/hr
10	mcg/kg/min	14.0 ml/hr
20	mcg/kg/min	28.0 ml/hr

Medications

Albuterol		5 mg
Charcoal		25-50 gms
Dextrose 12.5%		150-200ml
Diazepam	(IV)	3.5 mg
	(Rectal)	18 mg
Diphenhydramine		35 mg
Epinephrine 1:1000		0.3 mg
Glucagon		1.0 mg
Morphine Sulfate		3.6 mg
Naloxone		3.6 mg